

No. 12322

United States
Court of Appeals
For the Ninth Circuit.

COMPANIA NAVIERA LIMITADA, a Corporation,
Claimant of the Motor Tanker
"URANIA," Her Engines, Tackle, Apparel,
Furniture and Equipment,

Appellant,

vs.

E. A. BLACK and J. J. FEATHERSTONE, Co-
partners doing business under the name and
style of Commercial Ship Repair,

Appellee.

Apostles on Appeal
In Four Volumes
Volume IV
(Pages 1351 to 1738)

Appeal from the United States District Court
Western District of Washington,
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(Testimony of Craig Wallace.)

Q. Will you state, please, what the practice is with respect to the approval of accounts by the master of a vessel for expenses incurred in connection with the normal arrival or departure of a vessel from a port other than the home port of a vessel?

A. The ideal situation would be to have each voucher for every expense signed by the master before payment, or authorized by the owners before payment.

Mr. Hokanson: I object to the answer as not responsive.

The Court: As I understand it, he means the ideal agency situation, is that what you meant?

The Witness: That is what I meant. [1168]

The Court: The objection is overruled.

Q. Did you complete your answer?

A. Yes.

Q. Well, is that ideal situation adopted as a matter of practice?

A. No, as a matter of practice it often cannot be adopted.

Q. Why not?

A. Some of the vouchers appear after the vessel has sailed, and some of them, an agent does not always consider it necessary to make too much of an effort to obtain the captain's signature, providing they are not vouchers covering a matter of law of the land.

Q. Can you give us an illustration of that type of voucher?

A. When a foreign vessel enters an American

(Testimony of Craig Wallace.)

port, they pay a tonnage tax of 6 cents a ton, and it isn't necessary for a captain to sign that.

Q. Can you give us another illustration?

A. For example, with Panamanian vessels it has become quite customary not to necessarily have the captain sign the voucher from the Panamanian consul.

Q. Why not?

A. Because their laws of the land under whose flag the vessel flies, it is found it is very difficult to [1169] object to charges made by consul.

Mr. Hokanson: I object to the answer as involving speculation of the witness.

The Court: The objection is overruled.

Q. What would you say the practice would be with respect to invoices for broker's services or immigration services?

A. Those again I don't think it is imperative that they be signed by the master.

Mr. Hokanson: I object to the answer as involving the opinion of the witness.

The Court: The objection is overruled, in view of the witness' stated experience.

Q. How about the invoices that would be presented for the agency fee of the ship's agent?

A. In this area, that is prescribed by a brokerage scale which has been adopted by the major agents on the Pacific Coast, so I don't think it is absolutely necessary for the captain to sign it.

Q. How about any charges for telephone service or cable service or items of that nature?

(Testimony of Craig Wallace.)

A. Again, I would say it is preferable to have those signed for. If they cannot be, and it is a responsible agent, and each telephone and cable is proved in the eyes of the agent to be on ship's business, I think it would be [1170] permissible to let that go without a signature, which we have done in the past.

Q. Can you state generally what your practice has been and your experience with respect to the approval and payment of vouchers which are not presented until after the ship departs from the port?

A. Well, it is a matter of one's own experience. I would try to say it briefly, that those items which were requested or asked for by the master, not by the agent, but perhaps through the agent should definitely be signed by the master before they are paid.

If the ship happens to get away from the port before those vouchers appear, our policy would be to send it to the master, if possible, at the next port or to the owners prior to making payment.

Q. Handing you Identifications A-9, A-10 and A-11, I will ask you to examine those very hastily, if you will, please. Have you ever seen them?

A. Yes, I have.

Q. Do you know what they represent, what they purport to represent? A. Yes.

Q. State what they purport to represent?

A. They purport to represent two calls of this vessel at the fort of Manzanillo. [1171]

(Testimony of Craig Wallace.)

Q. The vessel you are referring to is the *Urania*?

A. Yes.

Q. Generally, what items are included on those identification numbers?

A. I would say generally it is goods and services furnished the vessel during the call at this port on two occasions, and also services which apparently were required by the Mexican authorities.

Mr. Hokanson: I object to all this line of questioning, Your Honor, as not being proper examination in respect to these invoices. They are not within the personal knowledge of this witness. He is speculating as to what they represent.

The Court: The Court has in mind he has been called as one familiar with business practice of this nature and his qualifications have been tentatively stated, at least.

Mr. Hokanson: I concede the qualifications of the witness, Your Honor, but he is reading documents which contain statements on the basis of which he identifies the document. The instrument to that extent is self-serving and hearsay.

The Court: Is the instrument already in evidence?

Mr. Hokanson: It is not, Your Honor.

Mr. Howard: It has been identified only. [1172]

The Court: You cannot read the instrument into evidence. You can let him look at it, but you cannot have him state what is in it. I do not think it is proper for the examiner to state what is in it, for

(Testimony of Craig Wallace.)

anything to be done in respect to the record relating to it, and the objection is sustained.

Q. Referring, Mr. Wallace, to Identification A-9, to page 4, item 4, identified as C-4—can you locate that? A. Yes.

Q. Do you have that in front of you?

A. Yes.

Q. The fourth one? A. Yes.

Q. Will you state whether that item is one of a nature that would generally in your experience be approved by the agent without requiring the endorsement or approval by the master?

Mr. Hokanson: Same objection, Your Honor.
The Court: Overruled.

A. In answer to that, I would say that if there is a tariff which has been built up through practice or accepted by the trade as custom, it would not be necessary for the captain to sign it; and in most ports the pilot prior to leaving the vessel obtains the captain's signature, so that question has never arisen in Seattle, to my knowledge. [1173]

Q. Are you referring now to the fourth item?

A. Pilotage.

Q. Can you state what the next item refers to?

A. Immigration.

Q. Directing your attention to that item on Identification A-9, what would be the practice with respect to requiring the approval of the master on that item?

A. Ordinarily in Seattle the bills would not be received prior to departure of the vessel, and we

(Testimony of Craig Wallace.)

would pass them for payment without the captain's approval.

Mr. Hokanson: May the record show my objection to all of this testimony, and on the additional ground that the witness is testifying as to a practice in Mexico, whereas his experience is limited to the coast of the United States.

The Court: The last objection is sustained.

Q. Mr. Wallace, do you have any knowledge from your experience as to the practice in ports in Mexico with respect to such items?

A. Well, it would be only a very general knowledge. Vessels over which we have control here and where I would see a disbursement account have not called at Mexico since I have been out here.

Q. What other knowledge would you have of the practice in ports of Mexico as to such items you mentioned, a [1174] general knowledge?

The Court: He said that is the only knowledge he would have, would be a general knowledge, and he has explained why it was very general.

Q. Referring, please, to item 44 on Identification A-9, have you any knowledge of what the standard and customary fees for the services of an agent are for a ship calling at a Mexican port?

A. To my knowledge, there is no standard scale. Often it is a matter of negotiation.

Q. Do you have any knowledge of the range of what the cost might be for such services at a Mexican port?

A. Again, I would say it is to protect our own-

(Testimony of Craig Wallace.)

ers. It would be a matter of negotiation, because I think there is almost no limit, probably, that they could charge, couldn't they?

Q. Referring to item 44 and the charges shown therein, can you state whether that is a reasonable charge for agency services?

Mr. Hokanson: I object to that. He has testified he doesn't know about Mexican charges.

Mr. Howard: He stated it is a matter of negotiation between the owner and the agent, which seems to me affords a basis for this witness to state whether this particular charge is reasonable. If it is a matter [1175] of negotiation, he has some basis on which he might be able to express an opinion. At least, I think the witness should indicate whether he can express an opinion.

The Court: The objection is overruled.

A. Well, in my opinion, I would say that this is a reasonable charge.

Q. Were you acquainted with the Tanker *Urania* in August, September or October of 1948?

A. Yes.

Q. What connection, if any, did you have with that vessel?

A. The vessel was handled by the department of which I am in charge. I wasn't doing most of the work on her.

Q. During that time, did you make any negotiations or participate in any way with any efforts to secure employment for the vessel?

A. Yes, we did, because that is in the depart-

(Testimony of Craig Wallace.)

ment I am in. We looked for what cargo we could find. We found almost none, but we did have one inquiry.

Q. What negotiations did you make or action did you take to secure employment for the vessel?

A. We had an inquiry for a twelve months' time charter for a vessel of this type and this size. The owner of the vessel was with me at the time. I showed him the inquiry. He was interested. We endeavored to negotiate and bring it [1176] to a conclusion.

Q. Tell us what time this was this inquiry came in.

A. To the best of my knowledge, it was the last days of September.

Q. Will you state what, if any, price was considered for the time charter of the vessel on this inquiry that you had?

Mr. Hokanson: That is objected to as leading; and moreover, irrelevant.

The Court: That is sustained.

Q. Was any price discussed for the time charter of the vessel on this inquiry?

Mr. Hokanson: That is objected to as irrelevant.

The Court: Overruled.

A. Upon showing the owner the inquiry, his opinion was that a charter hire of \$16,000 per month would be acceptable to him.

Q. That was for a twelve months' period?

A. Yes.

(Testimony of Craig Wallace.)

Q. On the basis of that, do you have any knowledge of what the net profit would be to the owner, per month?

Mr. Hokanson: I object to that. He hasn't established all the factors here that are necessary to form an opinion.

The Court: That is sustained. [1177]

Mr. Howard: If the Court please, this witness has testified that in his business it is necessary for him to have a general knowledge as to what the prime cost of operation of a vessel is for the purpose of determining the charter rates.

The Court: He hasn't shown what trading routes were in mind, what was considered, whether or not the location of routes, distances, ports of call and other factors would enter into it, and if so, to what extent and how that might influence his judgment. The objection is sustained.

Q. What particular employment was considered on this time charter of this vessel?

A. The employment considered was the molasses trade between the Philippine Islands and Japan.

Q. Under a time charter, what is the practice with respect to the payment to the owner? I will ask you what the practice is with respect to payment to the owner?

A. The owner is paid hire at the agreed rate, monthly or semi-monthly in advance depending upon negotiations.

Q. Is the hire suspended for periods while the

(Testimony of Craig Wallace.)

vessel is not actually engaged in the transportation of cargo?

Mr. Hokanson: Objected to as leading.

The Court: Sustained.

Q. Is there any suspension in the payment of charter [1178] hire under a time charter?

Mr. Hokanson: Objected to as leading.

The Court: Overruled. Yes or no is the proper answer.

A. There can be.

Q. Under what circumstances?

A. If the vessel is unable to fulfill her warranty, so to speak, of the charter; in other words, broken down.

Q. After this inquiry came in and you discussed it with the shipowner in the last days of September, what if anything transpired with respect to the fixing of this vessel for employment?

A. The vessel was never fixed. Apparently the details on the other side were too complicated and the potential charterer could not clarify them with his principals.

Q. State, if you can, over what period of time the negotiations for this time charter that you have referred to extended?

A. To the best of my memory, we had a cable on the 3rd of November that the matter was to be dropped, a cable from Manila.

Q. Prior to that time, had you received any indication from the proposed charterer as to his willingness to accept the vessel at the rate quoted?

(Testimony of Craig Wallace.)

Mr. Hokanson: Objected to as leading. [1179]

The Court: Overruled.

A. We had a cable about the middle of October, the only cable that mentioned price, and it said that the charterer——

The Court: You cannot state what the cable said. Where is it?

Q. Do you have the cable with you?

A. I have a copy of it.

Q. Will you produce it, please?

Mr. Howard: I would like to have that marked for identification, if the Court please.

(10-13-48 cable marked Respondent's Exhibit A-26 for Identification.)

RESPONDENT'S EXHIBIT A-26

[In ink]: Del Manila if cargo to PI arranged
14,000 Redel St.

SFA005 Intl SF Manila Via Globe 17/16 13 405P
1948 Oct 13 AM 6 42

LC Gencharter—General SS 1211

Seattle Wash

Your Eleventh Urania Parsons Only Interested
Maximum 12500 Dollars Delivery Redelivery Ma-
nila.

SUGARCRAFT.

Rejected.

(Testimony of Craig Wallace.)

Q. Handing you Identification A-26, can you state what that is?

A. That is a cable from our agents in Manila, a copy of a cable.

Q. Dated when?

A. Dated October 13, 1948.

Q. What does it relate to?

A. It relates to the negotiations that we were endeavoring to work out for the charter of this particular vessel *Urania*.

Q. Does that cable contain any reference to the proposed charter agreement price for time charter?

Mr. Hokanson: That is objected to; the document speaks for itself. Moreover, the document has not been offered in evidence, Your Honor.

Mr. Howard: I will offer it right now.

Mr. Hokanson: I don't see that he can testify concerning it until it has been.

Mr. Howard: I will offer it now.

Mr. Hokanson: I object to the admissibility of the cable on the ground that it is irrelevant here. No connection has been established between this document and this line of testimony and the claim of cross-libelant in this proceeding.

Mr. Howard: One of the elements of our claim, contained in page 3 of the cross-libel, is an item: loss of profits during certain periods of detention. I am endeavoring to prove by this witness what this vessel might have earned if it had been available on certain dates.

(Testimony of Craig Wallace.)

Mr. Hokanson: The witness has already stated that negotiations were had and that the particular proposed charter was rejected, and on that ground, I submit anything further relating to this particular negotiation is wholly irrelevant on the question of profit.

The Court: Has it been explained why it was rejected? Was it rejected because of some better opportunity which was accepted?

Mr. Howard: I will ask the witness that question now.

Q. What was the reason for the failure of negotiations as to this charter, if you know?

A. I am quite sure that it was the failure of the potential charterers to work out their molasses contract with the SCAP in Japan.

Q. Prior to the failure of these negotiations, had the proposed charterers of the vessel indicated any price that was agreeable to them for the charter of the vessel? A. Yes.

Q. In what manner was that communicated to you?

A. It was communicated by a cable in which they express interest at a certain figure.

Q. Is that the cable that is now identified as A-26? A. Yes.

Mr. Howard: I now offer A-26.

Mr. Hokanson: Same objection, Your Honor.

The Court: The objection is sustained.

It seems to me that what finally developed in con-

(Testimony of Craig Wallace.)

nection with this inquiry, the opportunity which was thought to exist did not, in fact, exist. It turned out not to exist. It was a prospect, but not a fact.

That is the way it seems to me, Mr. Howard. I make that comment so that you will understand the basis of the Court's ruling.

Mr. Howard: I understand that, if the Court please, but I do wish to point out in connection with the Court's ruling that this witness has testified that the charterer has indicated willingness to pay a certain price for the vessel, but the witness has now stated that because of failure to secure approval of SCAP, that they were unable to conclude the arrangements for the charter.

I therefore submit to the Court that this document, A-26, does cast some light upon what a charterer would be willing to pay if he had been able to conclude the necessary arrangements with the Government authorities, and that it should be admitted for the purpose of showing what a charterer had indicated willingness to pay for the use of this vessel on a charter basis.

The Court: In view of all the witness' testimony, the Court is of the opinion that the prospect was an unsubstantial prospect. Therefore, the objection is sustained.

Q. Did you have any further negotiations after this telegram that you have referred to concerning the employment of the vessel *Urania*?

(Testimony of Craig Wallace.)

A. We continued to try to work here, as I said before, for this particular business. [1183]

Q. When did your negotiations in that respect conclude?

A. As I remember, it was the 3rd of November.

Mr. Howard: I have no further questions.

Mr. Hokanson: No questions.

The Court: You may step down.

(Witness excused.)

The Court: Call the next witness.

Mr. Howard: Mr. Antippas.

The Court: Mr. Antippas has already been sworn. He will resume the stand.

DEMETRI ANTIPPAS

was recalled as a witness by and on behalf of respondent, and having been previously duly sworn, was examined and testified as follows:

Direct Examination

By Mr. Howard:

Q. Mr. Antippas, calling your attention to the period during which the Tanker Urania was at Winslow, Washington, for repairs in August, September and October of 1948, did you at that time have any discussion with representatives of Commercial Ship Repair as to extension of time on the completion of the contract work? [1184]

Mr. Hokanson: That is objected to as having

(Testimony of Demetri Antippas.)

been already covered by this witness in his previous testimony, Your Honor.

Mr. Howard: This witness has not been called on cross-libelant's case in chief. It may have been touched upon on the answering case of the claimant shipowner.

The Court: If the testimony has already been given, why have it produced a second time? It is before the Court.

Mr. Howard: It seems to me, Your Honor, that we should have the privilege or opportunity of establishing it or clarifying that testimony at least once on the case in chief of the cross-libelant. I am not satisfied that we went into that matter in sufficient detail in the answering case on the libel.

The Court: How many such instances do you expect to occur in respect to witnesses previously called?

Mr. Howard: This is the only instance, Your Honor, that I know of.

The Court: You may inquire.

Mr. Hokanson: Before he answers, Your Honor, I don't think the time has been established, and I would like the reporter to read the question.

(Last question read by reporter.)

Mr. Hokanson: I object to the question as leading. [1185]

The Court: Overruled.

Q. Answer yes or no. A. Yes, I did.

Q. When did you have such a discussion, if you recall?

(Testimony of Demetri Antippas.)

A. Yes, I do recall. It was on August the 4th or 5th, I believe the day that we came to an agreement on the bids with Mr. Antippas in his office.

The Court: August when?

The Witness: Either the 4th or 5th, Your Honor, and the ship was not at Winslow yet. It was still at the Foss Mooring.

Q. State your best recollection of the conversation that you had with Mr. Black at that time.

A. Well, I read the letter which was presented to me and the bid form, which included 18 working days as the time required to complete the original bid, and I remarked that I would be lenient as to the duration of the work, because I did not want to rush them. I indicated that I would not object to a few more days added to the 18 working days as stipulated.

Q. Did you have any further or subsequent conversation with Mr. Black or other representatives of Commercial Ship Repair regarding the time for completion of this job? A. I did not.

Q. Mr. Antippas, after the libel of the vessel and the [1186] release of the vessel on posting of bond, what orders were given by the shipowner to the master of the vessel as to where the vessel was to proceed?

Mr. Hokanson: Objected to as having been already covered in previous examination of this witness.

(Testimony of Demetri Antippas.)

The Court: Read the question, Miss Reporter.

(Last question read by reporter.)

Mr. Hokanson: I withdraw the objection on that ground. I believe it has not been covered.

The Court: Proceed.

A. The captain as instructed to proceed to Panama for further orders.

Q. Upon departure from Winslow was any cargo carried aboard the Tanker Urania?

A. None whatsoever.

Q. Was any cargo loaded aboard the Tanker Urania at any Pacific Coast port? A. None.

Q. At the time of the breakdown of the vessel on October 26, 1948, was there any cargo carried aboard the vessel? A. None.

Q. Mr. Antippas, have you had an opportunity to examine Exhibits A-12 and A-13, consisting of engineroom logs of the Tanker Urania covering the period from July 30 [1187] through a late date in 1948? A. Yes, I have.

Q. Will you state, please, whether there are any entries in the engineroom log in Greek or English relating to the manner in which the main engine performed prior to October 26, 1948?

The Court: Will either side in some concrete form undertake to show by the evidence how much is unpaid on the libelants' claim and how much is claimed on the respondent's cross-libel?

Mr. Howard: Yes, Your Honor. I am prepared to do that.

(Testimony of Demetri Antippas.)

The Court: I wish both sides would have that in mind. It might serve as a convenience to the trier of the fact to have some concrete testimony upon both of those issues in addition to any that may have already been offered. A stipulation would suffice, of course, at any time during the trial.

Mr. Howard: We will undertake to reach a stipulation on that, Your Honor.

Will the reporter read the last question, please?

(Last question read by reporter.)

A. Yes, there are.

Q. What are those entries, please?

A. This log book—— [1188]

The Court: Which one?

The Witness: This engineroom log book.

The Court: Is it in evidence?

Mr. Howard: Yes, it is, Your Honor.

The Court: As what number?

The Witness: It is Exhibit A-12 I am referring to now.

A. There are columns with English headings referring to the performance and temperatures of the main engine, and there is also a part here which refers to incidentals; adjustments of machinery, repairs, remarks, etc., in which the entries are made in Greek.

Q. What page of the log are you looking at now?

A. I am looking at the page dated October 15, on the day the vessel sailed.

Q. Will you turn to the following pages and

(Testimony of Demetri Antippas.)

examine the next few entries under the column of remarks?

The Court: Name the date.

Q. On the 16th through the 25th of October, 1948? A. I have looked at it.

Q. Can you summarize for us the entries under the column of remarks during that period with respect to the functioning of the main engine of the Tanker Urania?

Mr. Hokanson: I object to that, Your Honor; "summarize the entries"— [1189]

The Court: The objection is sustained. You will have to let him read the entries.

Q. Start on October 16th. What is the entry for that date?

A. The entry for that date has the pressures given. Do you want me to read them?

Q. Just under the column remarks.

A. It says, "Vessel arrived at Port Angeles at 4:50. Stopping of engine. Damage of electric steering gear. Repair of steering gear by shipyard workers. Departure hour, 2025, 290 revolutions per minute."

Q. The next page, please. This is October 17?

A. This is October 17.

Q. The entry under remarks?

A. "Main engine and auxiliaries operating normally."

Q. October 18, any entries under remarks?

A. "Main engine and machinery and auxiliary machinery operating normally."

(Testimony of Demetri Antippas.)

Q. October 19?

A. "Main engine and auxiliary machinery operating normally."

Q. October 20th, under remarks?

A. "Main engine and auxiliary machinery operating normally."

Q. October 21? [1190]

A. "Stopping of main engine at 1630. Repacking of fuel pump."

The Court: What time is that?

The Witness: 4:30 p.m., Your Honor. "Repacking of fuel pump. 1720"—which is 5:20—"full ahead."

Q. The next date?

A. October 22. "Main engine and auxiliary machinery operating normally."

Q. October 23?

A. I am sorry, I have a remark here which I did not read on the 21st, which refers to changing of oil, of lubricating oil of starboard main generator.

The Court: Changed lube oil?

The Witness: Of starboard main generator.

Q. On October 21? A. Yes.

Q. This last entry you read as to repacking the fuel pump, was that on October 22?

A. No, that was October 21.

Q. October 22, entries under remarks?

A. "Main engine and auxiliary machinery operating normally."

Q. October 23?

(Testimony of Demetri Antippas.)

A. The same thing, "Main engine and auxiliary machinery operating normally." [1191]

Q. October 24?

A. October 24, "Main engine and machinery operating normally. 8:40 p.m., stopping of engine for tightening of packing installed in fuel pump. 8:50 p.m., full ahead."

The Court: At 8:40, was it?

The Witness: "Main engine and auxiliary machinery operating normally. 8:40 p.m., stopping for tightening of one packing in fuel pump. 8:50 p.m., full ahead."

The Court: One packing where?

The Witness: Of fuel pump.

Q. The next date, any entries under the column remarks, and the date, please?

A. "Main engine and machinery operating normally" on October 25. "At 7:30 p.m., changing of lubricating oil of main engine."

The Court: Will you repeat that again? What happened on October 25th?

The Witness: "Main engine and machinery operating normally. At 7:30 p.m., changing of lubricating oil of main engine."

Q. Will you turn to the next page? What entries under the column remarks, if any?

A. On October 26, "Revolutions of main engine oscillating. 3:20 p.m., revolutions of main engine reduced."

Q. Was that 3:20 p.m. or 320 r.p.m.? [1192]

(Testimony of Demetri Antippas.)

A. 3:20 p.m., the hour.

The Court: The main engine?

The Witness: "Main engine reduced and detection of knocking." "Stopping of engine for examination. Dismantling of governor and vertical shaft. Findings: wornout lower timing gears, causing poor operation of engine."

The Court: Will any logbook entry show where the vessel was on this 26th day when these things happened?

Q. Would you refer to——

A. It is not finished—there is some more in the remarks. "Impossible continue at normal speed. Proceeding reduced r.p.m. 150 to nearest port for repairs providing engine holds out. 11:30 p.m., in motion." That is all, Your Honor.

Q. Mr. Antippas, will you refer now to A-8? Will you examine the entries in A-8 for October 26th and state whether the position of the vessel is recorded as of the time of the breakdown?

A. Yes. It is marked here under 1520, Tuesday, October 26, 1948.

Q. What does the log entry under A-8 show as to the position of the vessel as of that date and hour?

A. Should I give you just the position, or do you want the whole entry of the log? [1193]

Q. Is it in English or Greek?

A. It is in English.

The Court: In ordinary parlance, what is the hour on October 26th?

(Testimony of Demetri Antippas.)

The Witness: 3:30 p.m., sir.

Q. Read the entire entry.

A. It says, "Stopped the engine to clean filters. Chief engineer discovered that gear of vertical shaft thrust bearing and gear of vertical shaft drive are galled. Ship's engineer trying to do something. Latitude, 18 degrees, 15 minutes north. Longitude, 104 degrees, 24 minutes west. At 1930"—which is 7:30—"we called up the owners in New York by ship's radiotelephone and ordered us, as soon as the chief engineer fixed temporarily the above gears, proceed Los Angeles, California."

The Court: Does that purport to record what the owners instructed? If so, state what the owner is there recorded to have instructed.

Q. What is recorded there in the log as the instructions from the owner?

A. We instructed the captain to proceed to the nearest American port, which was Los Angeles, California.

Q. Does that conclude the entries in Exhibit A-8 for October 26?

A. No, there is some more. [1194]

Q. Would you read the rest?

The Court: What port was that? The nearest port?

The Witness: The nearest American port, the nearest United States port.

The Court: And the comment of the one making that entry is "which was Los Angeles"?

(Testimony of Demetri Antippas.)

The Witness: "Proceed to Los Angeles, California."

Q. Does that show in the log?

A. No. I discussed this with the captain myself on the telephone, and I asked him what was the nearest——

Mr. Hokanson: Be responsive to the question.

Q. Will you continue with the entry in the log for that date?

A. "At 2330"—11:30 p.m.—"engine started running 145 r.p.m., changed course to 297 true, proceeding to Los Angeles."

Q. Turning to the entries in the deck log, Exhibit A-8, for the next day, are there any remarks noted there?

A. Yes. On Wednesday, October 27, 1948, at 4 a.m.—do you want me to read it?

Q. Yes, please.

A. "Partly cloudy and light west-northwesterly breeze. Moderate swell. Engine runs at half speed, r.p.m. 150."

Mr. Hokanson: May I interrupt to ask the witness one question? Are these entries written in English? [1195]

The Witness: That is correct. They are.

Mr. Hokanson: I wonder if we couldn't shorten this, Your Honor. The entries are written in English and they are available for inspection purposes if counsel has some particular data——

(Testimony of Demetri Antippas.)

The Court: I didn't know what the purpose was. Proceed.

Q. Will you refer now to Exhibits A-12 and A-13 for October 27th? Are there some entries under the column remarks for that date?

A. October 27, 1948?

Q. Are they in Greek? A. Yes.

Q. Will you give us a translation of that, please?

A. "Engine functioning irregularly and with reduced r.p.m. 150-151. Auxiliary machinery operating normally."

Q. Any further remarks? A. That is all.

Q. Mr. Antippas, are you acquainted with the temperatures and pressures normally experienced and prescribed by the manufacturer for the operation of the main Union Diesel engine installed aboard the Tanker Urania? A. Yes, I am.

Q. Will you refer back to the engineroom log entries on A-12 and A-13 for the period from October 16 through [1196] October 25th?

A. I am referring to Exhibit A-12 on October 15, the day the vessel sailed from Bainbridge Island.

Q. Have you examined the entries shown there as to the temperatures and pressures recorded in the engineroom log? A. Yes, I have.

Q. Can you state whether the temperatures and pressures as recorded in A-12 are within the normal operating range prescribed for the main engine of the Tanker Urania? A. They are.

Q. Are there any exceptions to that for the period that I have mentioned?

(Testimony of Demetri Antippas.)

A. I will have to look through it.

Q. That is, through October 25?

A. Nothing that would be outside of the ordinary operation of the main engine.

Q. You have had an opportunity to check these entries over prior to the time that you took the stand?

A. I have.

Q. During the period from October 16 through October 25, did you have any occasion to talk with the master or chief engineer of the Tanker Urania?

A. I did.

Q. How was that conversation carried on?

A. By radiotelephone. [1197]

Q. When were those conversations?

A. Every day.

Q. State what if any report was received from the master or chief engineer of the Tanker Urania by radiotelephone conversation between October 16 and October 25 with respect to the manner of performance and function of the main engine of the Tanker Urania.

A. The main engine was operating satisfactorily without any apparent cause for alarm.

Q. Where were you on October 26?

A. In New York.

Q. State what if any notice you received of difficulties encountered by the Tanker Urania.

A. It was October 26, I believe, about 9 or 9:30 New York time. I received a telephone communication from the master informing me that the vessel was stopped for several hours.

(Testimony of Demetri Antippas.)

Q. Was that morning or evening?

A. That was 9:30 p.m., and I was given to understand they had just discovered what the trouble was, and it was reported to me that the vessel had developed wornout lower timing gears for the main engine.

Q. What instructions did you communicate to the master of the vessel at that time, if any?

A. I discussed the matter thoroughly with him, trying [1198] to find what the nearest port would be, and he informed me that the nearest United States port, which I asked him to check for me, would be Los Angeles, and I instructed him to proceed to Los Angeles.

Q. What if any further conversations did you have with the master after this one you have just referred to?

A. The next morning I received another telephone call, and I was informed—or rather, the chief engineer informed me that it was not possible to continue the run to Los Angeles, because in the first place the gears were wearing out fast, and in the second place it would have been a hazardous trip under the conditions stated by the captain.

Q. Did you give any further or revised instructions to the master or chief engineer of the vessel on that occasion? A. Yes, I did.

Q. What were they, please?

A. I informed the captain to proceed to the nearest port to him at that time, and he told me he

(Testimony of Demetri Antippas.)

could see the Manzanillo lights, and he informed me they were about 60 or 65 miles and they would try to make it into Manzanillo.

Q. What if any further action did you take at that time or after that time with respect to the repair of the engine on the Tanker Urania?

A. The chief engineer had given me the numbers as listed—I mean, the description of the parts which were [1199] worn out and also the reference numbers as in the operating manual.

Q. By the way, did the Tanker Urania have a main engine operating manual aboard?

A. Yes, and I had translated most of it in Greek.

Mr. Hokanson: I object to the latter part of his answer as not responsive.

The Court: Overruled.

A. Yes, they did have that manual, and from that manual I was given the description and reference numbers of the parts in question.

Q. Who gave you those, please?

A. The chief engineer.

Q. By radiophone? A. That is correct.

Q. Then what action did you take?

A. I immediately contacted The Union Diesel Engine Company in Oakland, California, and I discussed the matter with Mr. Newell.

Q. What arrangements did you make for assistance from the Union Diesel Engine Company, if any?

A. We arranged with Mr. Newell that he was

(Testimony of Demetri Antippas.)

going to dispatch his best service engineer down there with the spare parts and try to do something for the vessel, to come to Los Angeles for a final checkup or final repairs on the [1200] vessel.

Q. Was that done, to your knowledge?

A. Yes. We performed the temporary repairs and the vessel proceeded for Los Angeles.

Q. After these repairs had been performed at Manzanillo, did you receive any further word from the vessel as to any difficulty? A. Yes.

Q. What word did you receive?

A. I did receive another call from Mr. Cross. I was in constant communication with Mr. Cross, who was the service engineer on board the vessel, and I don't recall the time or date exactly. I would say it was approximately 36 hours after the vessel sailed, but I received a communication that the lower timing gears were wearing out again.

Q. What instructions did you give to the master or Mr. Cross by radiophone at that time?

A. I instructed both the master and Mr. Cross that I was going to dispatch a tug to tow them, as further operation of the engine might have proved injurious to the engine, and I doubt very much that they could have made it on that engine to Los Angeles.

Q. Had you received any report from the master or Mr. Cross at that time as to whether it was possible to [1201] continue the operation of the main engine until the vessel arrived at Los Angeles?

(Testimony of Demetri Antippas.)

A. Well, not to Los Angeles. They definitely stated they wouldn't undertake to take the vessel to Los Angeles under her own power.

Q. What action did you take to arrange for a tug?

A. I contacted Simpson, Spence & Young in New York, who are our agents, and with whom we deal every day, and they in turn contacted the General Steamship agency in San Francisco, I believe—no, it was in Los Angeles, and arrangements were subsequently made for towage of the vessel.

Q. Do you know whether that was a negotiated price on the towage, or was it a matter of bids?

A. That I don't know, if it was bid or on negotiation. I know that I approved the price that was presented to me as the best available.

Q. Mr. Antippas, did you go out to Los Angeles to meet the vessel out there?

A. Yes. I went to Los Angeles prior to the vessel's arrival.

Q. You were there when she arrived?

A. I was there before she arrived.

Q. What arrangements did you make for repair of the main engine after arrival of the vessel at Los Angeles?

A. I had already arranged with Mr. Newell, after also [1202] consulting with Mr. Cross on the matter, to have some more Union Diesel Engine men to come down there with necessary spare parts to perform a general checkup of the engine to deter-

(Testimony of Demetri Antippas.)

mine the actual cause of the breakdown, and of course, to remedy such causes.

Q. Did you participate in any way in the servicing or inspection of the main engine aboard the vessel?

A. I was there every day and present at everything that was carried out.

Q. Who arranged for Mr. Pike to be present and attend aboard the vessel?

A. I informed General Steam in Los Angeles that the vessel was under American Bureau classification, and conforming to the regulations of the Bureau, that it would be necessary to have Mr. Pike present.

Q. Who arranged for Mr. Dupuy to be present?

A. It was arranged in the same manner by General Steam after indication that our underwriters were London Salvage.

Q. Mr. Summers was representing the owners themselves?

A. That is correct. Mr. Summers was retained by me through General Steam.

Q. Mr. Antippas, are you acquainted with the lubricating oil cooler that was installed aboard the Tanker Urania? A. I am.

Q. Will you state if you know what the test pressure [1203] specified by the manufacturer is for the salt water side of the lubricating cooler which was installed aboard the Tanker Urania at the time

(Testimony of Demetri Antippas.)

it was at Winslow and at the time of the breakdown in 1948?

A. That was 300 pounds per square inch.

Q. How do you know that?

A. It is stamped on the casing of the engine.

Q. How do you recall the stamping on the casing of the engine?

A. I saw this cooler quite recently.

Q. How recently? A. Yesterday.

Q. Where is the cooler now?

A. It is in the offices of General Steamship Corporation in Seattle.

Q. Can you give us some idea as to the weight of that cooler?

A. Approximately 150 pounds.

Q. Will you refer again, please, to the engine-room logs for this period, Exhibit A-12, and state if there is any reference in the engineroom logs to the employment of a standby fire pump in connection with the cooling or circulating system aboard the vessel between the period October 15 and October 26, 1948?

A. Yes. I was referring to that Exhibit 12. There [1204] is no such mention in Exhibit 12 between the periods of October 15 and October 26 as to the use of any standby pump for cooling, for assisting of cooling.

Q. As an officer of the owners' corporation, do you know of your own knowledge what the practice was with respect to the use of a standby fire pump

(Testimony of Demetri Antippas.)

aboard the vessel *Urania*? A. Yes, I do.

Q. State what that was, please.

Mr. Hokanson: Your Honor, as an officer he has no better information on that than he would have if he were a third party. It must be within his own knowledge. I don't see that being an officer of the company gives him any higher knowledge of that subject in and of itself. He wasn't on board the vessel.

Mr. Howard: I didn't want to take the time of the Court to review this man's qualifications as an engineer and the education he has had, nor his position with the company, which has already been testified to when he was called previously to the stand.

The Court will recall this man is a graduate engineer from a university in England and had a post-graduate course at MIT in naval architecture and engineering. He has testified he was operating engineer of the company owning this vessel, as well as an officer. [1205]

On the basis of that experience and with the position he has already testified he had with the company, it seems to me it is quite possible that this man might be able to cast some light as to what if any instructions or arrangements the owners had with the chief engineer or personnel aboard this vessel with respect to the use of a standby fire pump that has been testified to by others and has been raised by cross respondent in his cross-examination

(Testimony of Demetri Antippas.)

of numerous witnesses in California depositions.

The Court: The objection is overruled.

A. Yes, I do know what was done with that pump.

Q. Will you state what that practice was, please?

A. There was no need to use that pump.

Q. State what the practice was.

A. That pump would be used only in case the engine would overheat due to improper function of the water coolers, and then that pump, which is permanently installed and piped to the main engine, would be put in operation to activate the flow of sea water through the water cooler in order to effect better cooling.

Q. Will you refer once again, please, to Exhibit A-12 and state whether any entries are made during this period of October 16 to October 25 as to the temperature of lubricating oil in and out of the lubricating oil cooler? [1206]

A. I have looked at this exhibit before, and I noted that all of the temperatures of lubricating oil were normal.

Q. There are entries in A-12——

A. There are entries every day of the operation of the engine between Octobr 15 and October 26.

Q. Have you checked those entries?

A. Yes, I have.

Q. Are they within the normal operating range of temperature of the lubricating oil?

A. Very much so.

(Testimony of Demetri Antippas.)

Q. Do you know from your education and your experience what the effect would be of leaks in a lubricating oil cooler where two fluids are running, separated by tubing, at different pressures?

A. In reference to the lubricating oil cooler?

Q. Yes.

A. It is quite possible for the sea water to penetrate into the lubricating oil side of the cooler and contaminate the lubricating oil.

Q. Assume that the pressure on the lubricating oil side of the cooler is higher than the pressure on the salt water side of the cooler?

A. As referred to in this case, it is quite possible for the water to get into the lube oil; that means from the salt water side to get into the lubricating oil side, for [1207] two reasons.

Q. What are those reasons?

A. The first one is that the pressures are not constant at all times, and they vary according to the operation and the various conditions; and the second reason is a scientific one which is explained very clearly under Bernouilli's "Theorem in Applied Mathematics." It is an accepted theorem in applied mathematics which guides the principles of flowing liquids.

Q. Very briefly, and in lay language, if possible, will you describe Bernouilli's theorem?

A. I will try to. Actually, the energy of a flowing liquid at any point has four factors which affect its actions; in other words, which affect the way

(Testimony of Demetri Antippas.)

in which such liquid is going to act.

These four factors are internal energy, which refers to the molecular activity of the oil or water or whichever liquid is in flow, and this molecular activity is explained in plain language as heat, the heat energy.

The second energy would be pressure energy, which is quite plain.

The third would be velocity energy, in which velocity—I mean, we would consider it in plain language as the speed of the liquid which is flowing through a particular tube or a particular chamber. In that velocity, [1208] of course, is included the last, because velocity is compounded by acceleration.

And fourth, we would have the potential energy of the liquid. All these four factors have a bearing on the actions of the liquid flowing through a tube or through a chamber, and any one of them being higher can make the total energy of a liquid a higher force.

Q. During the course of this trial, the factor of viscosity has been mentioned by some of the witnesses. Is that taken into consideration in this theorem?

A. Yes, very much so, it is. Viscosity would come under internal energy of the liquid, the molecular agitation, as I said before, and a viscous liquid in molecular agitation is much lower than a non-viscous liquid.

Q. Applying this theorem to the principle of

(Testimony of Demetri Antippas.)

operation of the lubricating oil cooler installed aboard the Tanker *Urania*, what bearing would that have on the possibility of salt water penetrating through small leaks, as described in the testimony you have heard, in the seal or core of the lubricating oil cooler into the lubricating oil on the other side?

A. It would have very much of a bearing.

Mr. Hokanson: I don't think that question asks him anything. It suggests some sort of an answer that has been worked out, possibly, but I don't know what [1209] the question is—what bearing—he hasn't established the conditions. What is he talking about?

Mr. Howard: If the Court please, that evidence is already before Your Honor. This witness has attended during the trial of this case and certainly has that in mind. I can, of course, go into the details to establish the facts that were existing—which have been testified existed in this heat exchanger at the time it was taken.

The Court: At this point, we will take a ten-minute recess.

(Recess.)

Mr. Howard: I will strike the last question.

Q. Mr. Antippas, what bearing or relation does Bernouilli's theorem have to the principle of operation of the lubricating oil cooler aboard the Tanker *Urania*, assuming higher pressure on the lubricating oil side of the cooler, and assuming leaks in the core

(Testimony of Demetri Antippas.)

of the lubricating oil cooler as has been testified to in this case?

Mr. Hokanson: I object to the question.

The Court: It is overruled.

Let us proceed rapidly in the remainder of this trial. We have been rather deliberate. I do not mean to abolish deliberation, but I mean to expedite the proceedings. [1210]

A. The higher velocity and the higher internal energy of sea water would overcome the higher pressure of the lubricating oil on the lubricating oil side of the cooler, and therefore would create leaks of salt water into the lubricating oil side.

Q. Have you checked the engine room log entries in A-12 with respect to adjustment of the timing or fuel controls of the main engine during the period October 15 to October 25? A. Yes, I have.

Q. Are there any entries showing any adjustments made in the timing or fuel controls during that period? A. None whatsoever.

Q. Handing you Identification A-15, were you present when the work contained in that exhibit was ordered? A. Yes, I was.

Q. Did you obtain an estimate of the cost of the work? A. I did.

Q. What was that estimate, please?

A. It was very close to the figure stated in here. I believe it was within ten or fifteen dollars of what is indicated.

(Testimony of Demetri Antippas.)

Q. Does your signature appear on that exhibit?

A. Yes, it does.

Q. Did you check to see whether the work covered by [1211] that exhibit was performed?

A. Yes, I did.

Q. What is the total amount shown on that exhibit? A. \$678.86.

Q. What was your signature placed on that exhibit for? What was the reason for that?

A. Approving the cost and the carrying out of the repairs, supervision of that repair work.

Q. Has that amount been paid?

A. Yes, it has.

Q. By your company? A. Yes, it has.

Mr. Howard: I now offer A-15.

Mr. Hokanson: I object to its admissibility on the ground that it hasn't been established that all the items included therein were necessary to effect the repairs.

The Court: Namely, what items, for instance?

Mr. Hokanson: I don't have them. They were all testified to by the witness from the Clayton Boiler Company, and Your Honor expressed doubt at the time it was originally offered.

The Court: Originally, and at the time mentioned by objecting counsel, the items for certain parts, including some of those entering into the total amount [1212] of \$395.40, were objected to as not being properly identified, properly established.

Mr. Howard: That is right, Your Honor.

(Testimony of Demetri Antippas.)

The Court: It seems to me that the same objection is tenable now.

Mr. Howard: I offer the exhibit with respect to the items that have been identified.

The Court: That is the services only?

Mr. Howard: That is right, Your Honor.

The Court: Less the \$395.40 for parts?

Mr. Howard: That is right, Your Honor.

The Court: Insofar as Exhibit A-15 relates to services, the same is admissible. It is not admissible, in the Court's opinion, insofar as it relates to parts in the total parts cost of \$395.40, so the Court does now admit A-15 only insofar as it relates to services, excluding all items thereon relating to cost of parts.

(Respondent's Exhibit A-15 received in evidence.)

1003

Clayton Manufacturing Company

EL MONTE, CALIFORNIA

CUSTOMER

SOLD TO

U.S. Urania & Owners
c/o General Steamship Co.
P.O. Box 829 Attn: Mr. Hannah
San Pedro, Calif.

OUR ORDER NO. Return
Clayton Vouchers
Also for
General Steamship Corporation, Ltd.
541 South Spring St.
Los Angeles 13, Calif.

INVOICE NO.
75-85618
INVOICE DATE
11-18-48
DATE SHIPPED

W-1

SHIP TO

12322

CAUSE 15266
RESPONDENT EXHIBIT 2-15
APR 14 1949

ROUTE

El Monte

TERMS
1% 10 days
Net 30 days

SHIPPED VIA
S/O 01123

ADMITTED

ACCOUNT
701 & 709

PRODUCT
44

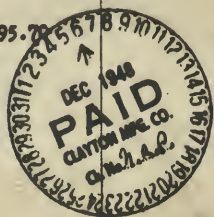
DEALERMAN
75

ON LIST PRICE
LESS DISCOUNT

STOCK NO	DESCRIPTION	UNIT PRICE	QUANTITY ON ORDER	QUANTITY SHIPPED	AMOUNT
To charge your account for repairs on generator, as follows:					
UH-6700	Diaphragm Washer	1.60	6	6	9.60
UH-6701	Diaphragm Collar	.45	6	6	2.70
UH-6734	Diaphragm Washer	1.70	6	6	10.20
7393	Seal	.46	6	6	2.70
7392	Seal	.80	2	2	1.60
7515	Bearing	5.90	3	3	17.70
7516	Bearing	4.95	4	4	19.80
7523	Thrust Bearing	3.15	2	2	6.30
7524	Thrust Bearing		1	1	1.65
7588	Fed. bearing		1	1	1.45
UH-1284	Crankshaft		1	1	45.00
JL-5248	Diaphragm	4.25	6	6	25.50
UH-1273	Yoke	26.00	3	3	78.00
UH-1282	Wrist Pin	1.55	3	3	4.65
UH-1283	Wrist Pin Bearing	.40	6	6	2.40
UH-1274	Conn. Link		1	1	9.80
UH-1279	Flange	9.95	6	6	59.70
UH-2142	Cheek Valve Housing	13.00	4	4	52.00
UH-2143	Housing Assy	13.50	2	2	27.00
UH-1276	Pump Head		1	1	5.65
UH-1499	Manifold Sleeve	.60	8	8	4.80
UH-1135	Stand Pipe		1	1	3.90
UH-1491	Stud	.45	8	8	3.60
					395.70
Labor: 56.25 hours @ 4.50 per hour					253.13
4 hours @ 6.75 per hour					27.00
					675.83
Sales Tax on 395.70					9.82
					685.72
					6.86
					692.58

*Clairmont and Cross-Libberts
Epitaphs # W-1 and W-2
for identification
W. P. Weatherly, N.P.
March 24, 1949.*

Comp. OK	App'd	Check No.
<i>[Signature]</i>	<i>[Signature]</i>	85047
Amount	678.86	
Charge to	120-60-1	



Insert 1213

14

TELEPHONE
FOREST 8-8801

SERVICE ORDER

Clayton Manufacturing Company

EL MONTE, CALIFORNIA

CUSTOMER

W-2-R.
W.R.A.
0112

Nº 0112

TO W. V. ADAMS GENERAL STORE CO CUSTOMER'S ORDER NO.

ORDERED BY McHale

DATE ORDERED 1/5/54

STREET ADDRESS

ORDER NO.

DATE WANTED

이

STATE

ISSN: 0013-788X

DATE COMPLETED OR SHIPPED 16-16-64

TELEPHONE NO. _____

FROM

CASH**CHARGE**

CUSTOMER

ACCOUNT

PRODUCT**SALESMAN**

1997

MODEL

TYPE

SERIAL NO.

DATE INSTALLED _____

IT'S TROUBLE CONSTRUCTION

Reported pump/leaking around heads - water
/ crank case etc.

Pump recently repaired - parts assembled incorrectly resulting in misalignment & crankshaft damage

Replaced pump - disassembled - reassembled
cleaning necessary, damaged parts. Readjusted
and calibrated & checked low water cutout function.
12 noon.

OPERATIONS Operation, maintenance and repair procedures outlined in manual should be followed closely. If spray gun should be installed immediately.

[illegible]

THIS SPACE FOR SERVICE DEPT. USE

485.47
1678.2

395. 70

PARTS USED PER LIST				
SALES TAX ON PARTS	%			
LABOR	HOURS @			
LABOR	HOURS @			
OVERTIME	HOURS @			
TOTAL CHARGES				
TOTAL PAID				

PARTS USED

NAME AND TITLE D. G. [Signature] [Signature]

**WORK COMPLETED
AND INSPECTED BY**

DoBieffer
SERVICEMAN

(Testimony of Demetri Antippas.)

Q. Referring you to Identification A-9, A-10 and A-11, are you familiar with the contents of those documents? A. Yes, I am.

Q. What do they represent?

A. They represent the port charges for two calls at the port of Manzanillo by our tanker, the *Urania*.

Q. From whom were those received by your company?

A. They were received from the agents at Manzanillo.

Q. Have the amounts shown on those documents been paid by your company?

A. Yes, they have.

Q. State what your practice is with respect to the payment of such accounts where they do not contain the approval of the master.

A. Some of the vouchers which do not contain the signature of the master are approved because the ship has left by that time, or because certain charges are standard practice in those ports. We are aware of such charges at various South American ports, especially, and Central American ports.

Q. State if you know whether the items contained on A-9, A-10 and A-11 all relate to charges incurred with the calls of the vessels *Urania* at the port of Manzanillo in October and November, 1948.

A. Yes, they do.

Mr. Hokanson: I object to that as not being within his own knowledge, since he wasn't present.

The Court: The objection is overruled.

(Testimony of Demetri Antippas.)

Q. Have those accounts been approved by your agent—— A. Yes, they have.

Q. ——at Manzanillo? [1214]

A. Yes, they have.

Mr. Howard: I now re-offer Identifications A-9, A-10 and A-11.

The Court: I would like to hear further testimony from the witness, if he has any further knowledge, regarding the nature of the expense involved in A-11. I have a notation that it was incurred in connection with carrying parts to the vessel.

Q. Do you have that before you now?

A. Yes, I do.

Q. Can you state what the items are covered by A-11?

A. It relates to a box of spare timing gears which had gone out on the vessel and which were sent by mail by Union Diesel Company to Manzanillo for the boat, and they missed the boat. They got it after the second time the boat called at that port.

Q. Were those actually put aboard the Tanker Urania? A. Yes, they were.

Q. When?

A. They were put on board during the second trip, I believe, I am not sure. I believe it is the second trip of the vessel to Manzanillo.

Q. Did you say those are spare parts?

A. They were the replacements for the broken-down timing gears of the vessel. [1215]

(Testimony of Demetri Antippas.)

Q. I understand, but after the new gears had been installed at Los Angeles, did these then constitute spare parts? A. That is correct.

Mr. Howard: On that basis, I withdraw my offer on A-11, if the Court please.

The Court: It seems to me that is proper, because it is not established that expense was a reasonable and normal consequence of any faulty condition in the repair job.

Mr. Howard: I therefore withdraw my offer on A-11. I have now offered A-9 and A-10.

The Court: The objection to them is overruled. Each of them, Respondent's Exhibits A-9 and A-10, is admitted.

(Respondent's Exhibits A-9 and A-10 received in evidence.)

Mr. Hokanson: Your Honor, may I read our objection into the record?

The Court: You may do so. I thought you had already stated your objection in the record.

Mr. Hokanson: Through this witness, Your Honor, this is compounding hearsay. Even the captain in his deposition didn't know of his own knowledge about these things and so admitted, and now they are attempting to [1216] introduce them through a witness who was 3,000 or 5,000 miles away from the captain.

In general, our grounds of the objection are, first, it is opinion as far as the reasonableness is concerned; second, they are self-serving documents;

(Testimony of Demetri Antippas.)

third, that the person who actually performed services in a situation such as this must testify except where the witness himself was present and saw the services performed; and that in general we feel the only proper person through whom these exhibits could properly be offered would be the agent who might be in a position to know if the accounts were reasonable and were actually done, or the captain who actually saw the work done—which was not his testimony—and therefore we object on the further ground of hearsay.

The Court: The theory on which the Court has admitted them is on what the Court believes is a reasonable inference from all the testimony received in connection with them, that they were paid by the cross libelant in the ordinary course of business, and it carries with it an inference that there was some investigation made by the company in the usual course of business as to whether they were proper items to be paid or not.

Mr. Hokanson: Your Honor, we feel that there should [1217] be more foundation before such an inference could be drawn.

The Court: The objection is overruled. The admission will stand as to those two exhibits.

(Invoice marked Respondent's Exhibit A-27 for Identification.)

Q. Handing you, Mr. Antippas, what has been marked for identification as A-27, do you know what that is? A. Yes, I do.

(Testimony of Demetri Antippos.)

Q. Were you present in Los Angeles when bunkers were replenished on the Tanker *Urania*?

A. Yes, I was right there.

Q. Did you see the oil put aboard?

A. Yes, I was right next to the hose.

Q. Can you state what A-27 is?

A. It is the quantity of oil necessary to replenish the bunkers of the Motor Tanker *Urania* which were expended from the time she left Seattle up to the time she departed from Los Angeles.

Q. What is the amount shown on that invoice?

A. \$974.32.

Q. Has that amount been paid by your company?

A. Yes, it has.

Mr. Howard: I now offer A-27.

Mr. Hokanson: It is objected to on the ground that [1218] there is no foundation laid here; the continuing objection heretofore made that there is no tie-up between this item and the work done by Commercial Ship Repair; and on the further ground that there is no testimony by the person furnishing the oil as to the reasonable value of the amount of oil set forth in the invoice.

The Court: The objection is overruled. Respondent's Exhibit A-27 is admitted. It is, however, without prejudice to the right of cross respondent to show whether it was all attributable to alleged improper repairs.

(Testimony of Demetri Antippas.)

(Respondent's Exhibit A-27 received in evidence.)

RESPONDENT'S EXHIBIT A-27

Invoice

Shell Oil Company
Incorporated

In Remitting Refer to
Invoice No.—H. O. 1576

Date November 24, 1948

M.S. "Urania" and Owners (and Charterers)

Compagnia Naviera Limitada

c/o Simpson, Spence & Young

52 Broadway

New York, New York

11-/17 1948

Delivered to M.S. "Urania" at Wilmington (San Pedro), California, ex-Wharf

283.75 barrels Shell Bunker Diesel Fuel

@ \$3.35 per bbl.....\$950.56

California Retail Sales Tax @ 2½%..... 23.76

\$974.32

Attachments:

Marine Loading Ticket (3)

Admitted April 14, 1949.

Q. After the Tanker Urania had left Los Angeles, where did it next proceed?

A. She proceeded to a Gulf port.

(Charter marked Respondent's Exhibit A-28 for Identification.)

(Testimony of Demetri Antippas.)

Q. Thereafter, was the vessel employed on the East Coast? A. That is correct.

Q. Handing you what has been marked Identification A-28, can you state what that is, please?

A. Yes. It is a charter party for a subsequent voyage of the Motor Tanker *Urania* between Sydney, Nova [1219] Scotia, and Philadelphia, Pennsylvania.

Q. What is the rate that was stated for the charter of the vessel?

A. \$8 per ton, U. S. currency.

Q. Do you know of your own knowledge what the length of that voyage was, approximately?

A. Yes, I know. It was ten days.

Q. Can you state what the cargo was that was carried at that time? A. Yes. Benzoin.

Q. From what ports?

A. It was carried from Sydney, Nova Scotia, to Philadelphia, Pennsylvania.

Q. In what month?

A. I believe it was the month of December.

Q. Of what year? A. 1948.

Mr. Hokanson: I object to all this as not relevant to the issues in this case, what happened subsequent to November 11, or 17.

Mr. Howard: Again, Your Honor, this relates to our claim for loss of profits, and I submit this is the best evidence, which was as to what the vessel might have earned in a related period. This covered how the vessel was employed in Decembr

(Testimony of Demetri Antippas.)

of 1948, which is a period of [1220] only 30 or 60 days after this breakdown. I submit it is the best evidence possible as to the earning power of the vessel during that period upon which we claim our damages and loss of profits.

The Court: You will have to prove similarity of conditions in October and early November.

Q. Mr. Antippas, do you know what the conditions on the charter market were in October of 1948? A. Yes, I do.

Q. Do you know what the conditions in the charter market were in November or December of 1948? A. I do.

Q. Will you state what, if any, difference there would have been in the conditions of the charter market in those two periods?

A. The condition of the charter market in October, 1948, was higher than November or December.

Q. What accounts for that?

A. It is the period of the year. Usually during winter, especially up at that part, Sydney, Nova Scotia, when it starts freezing it is very questionable whether you can obtain a cargo or not, and it is at our own risk we are doing so.

Mr. White: May we object upon the ground, first, that there is no foundation laid that a boat could possibly have been chartered here which would support such testimony as this; and secondly, that this was a different time, under different conditions, with different parties, carrying a different product.

I submit to the Court that under those circum-

(Testimony of Demetri Antippas.)

stances this could have practically no weight as far as showing any loss of profits is concerned.

Mr. Howard: May it please the Court, this witness has testified that when the ship left Winslow, it was proceeding on owners' orders to the Panama Canal. I think the inference is plain that she was intended for operation on the East Coast. The fact that we are dealing in two different coasts has no relation to the claim on loss of profits, in my opinion.

The way I analyze this, as long as we show that the owner intended to take this vessel to the East Coast and he was delayed in getting it to the East Coast by reason of the breakdown of the vessel, which we claim to be due to some fault on the part of the cross respondent, it is entirely appropriate to offer this and to discuss this subsequent charter as showing what the vessel might have obtained if it had arrived on the East Coast at an earlier date.

The Court: It would seem to the Court that the detail is improper. It is enough to qualify the witness [1222] to state what the charter market was on each coast, or any coast that might be regarded as material. I do not think this exhibit would be admissible.

That does not keep you from inquiring of this witness as to his knowledge of the charter market at some time and place that is material, and if he shows that he is qualified to state what the charter market was, that is another matter upon which the Court is not at this moment called upon to rule.

(Testimony of Demetri Antippas.)

Q. In your position as an officer of the claimant and cross libelant corporation, do you have any occasion to deal with the fixing of the vessel for employment? A. I do.

Q. What, if any, responsibility do you have in connection with such detail?

A. Negotiating the whole charter when it is presented to me. They present us with certain possibilities and offers. I select the one which is most appropriate, according to my estimation, negotiating all the terms of the charter and approving it.

Q. During the months of September, October, November and December, 1948, were you familiar with the conditions of the charter market on the East Coast of the United States?

A. I was at all times.

Mr. White: I object to that, Your Honor, on the [1223] ground that what the charter market might have been on the East Coast in December would have no bearing upon the issues in this case, since if there is any loss of profits it is during the month of October, around there.

The Court: The objection is sustained.

Q. Eliminating the month of December, will you state now what knowledge you had of the charter market on the East Coast?

The Court: In October and November would be proper times, it would seem to me.

A. About the end of October, the charter market usually goes down. Usually the best months are

(Testimony of Demetri Antippas.)

prior to November. October would be a good month, and I know from definite offers that we have—that we had better chances of making a better charter than this one here, in the month of October, than we would have had in the month of November.

Q. Do you know what the profit was to your company on the charter that you have referred to before?

A. Approximately three thousand and some odd dollars for the period of ten days.

Mr. White: I object to that, your Honor, on the grounds as stated before; different conditions, different product, different time, different parties involved.

The Court: The objection is sustained as to this particular proposed charter. [1224]

Mr. Howard: I would like to make a very brief statement. This vessel broke down on the West Coast of the United States or Mexico. Obviously, it would not be possible to charter a vessel during the period it is broken down.

We submit that we should be entitled to prove by this witness what the vessel earned when it did get back to the East Coast after repairs had been made, because we obviously could not testify as to the earning power of the vessel during the period it was broken down.

The Court: You could prove by some witness who knows what the charter market was for a vessel of this type during the period of the breakdown.

(Testimony of Demetri Antippos.)

The objection is sustained and the Court will disregard the statement of the witness regarding the profits of this charter.

Mr. Howard: At this time, for the purpose of the record, I offer Identification A-28.

Mr. White: That is objected to on the grounds previously announced.

The Court: Sustained. Admission is denied.

Mr. Howard: You may cross-examine.

Cross-Examination

By Mr. Hokanson:

Q. Referring to Exhibit A-27, that was the replenishing of the bunkers after the trip commencing at Seattle. That was the first time the bunkers had to be replenished after the ship left Seattle on October 15, is it not?

A. That is correct.

Q. So far as you know, the vessel did not break down until October 26, 1948?

A. I know it broke down before once.

Q. Before October 26?

A. Yes, the steering gear as mentioned in the log.

Q. Apart from that item, the engine breakdown occurred on October 26?

A. That is correct.

Q. So that oil was consumed during the voyage from Seattle to Manzanillo, was it not?

A. Yes.

(Testimony of Demetri Antippas.)

Q. Do you know how much oil was consumed during that period?

A. Not offhand, no. I would have to refer to certain data.

Q. Do you know how many miles it is from Puget Sound to Manzanillo?

A. I think approximately 2,400 miles.

Q. On that basis, are you able to state how much oil was consumed? [1226]

A. I would venture a rough guess, which would be about 20 tons.

Mr. Howard: Twenty tons?

The Witness: Yes.

Q. On the basis of the cost of the oil replenished, as shown by Exhibit A-27, what would be the price of that much oil?

A. I will have to convert it; just a minute. Approximately \$400, I should say. I would have to figure it out mathematically; this is just a rough estimate I am giving you.

Q. What is the unit cost shown on A-27?

A. \$3.35 per barrel.

Q. In terms of barrels, how many barrels would the ship have consumed on a 2400 mile voyage?

A. Usually, 6.6 barrels per ton, so multiplying 20 by 6.6, we would get the approximate barrel quantity.

Q. You have referred to the engine log, Exhibit A-12. If my recollection is correct, you stated that the temperature of the lubricating oil cooler be-

(Testimony of Demetri Antippas.)

tween October 15 and October 26 is shown by daily entries in the log, is that correct? A. Yes.

Q. What is the entry for October 16?

A. Which entry are you referring to? [1227]

Q. The lubricating oil temperature into the cooler.

A. It is 125 out—125° Fahrenheit at the output, coming out.

Q. What does it show what the temperature was going into the cooler? A. 100.

Q. That is wrong, isn't it?

A. It should be the other way around.

Q. In other words, the temperature is lower coming out than going in?

A. That is correct. I mean, it has been written down wrong here, but that is the main idea.

Q. Do you find any entries thereafter covering the temperature of the lubricating oil cooler prior to October 26? A. No, I don't.

Q. Then your testimony was wrong when you stated that the entries were regularly made during that period, is that correct? A. Partly.

Q. That is a record that should be made in the log, isn't it?

A. Not necessarily; it depends on the chief engineer and what you require from him.

Q. If you are going to keep track of the cooler, you [1228] have got to know what the temperatures are, don't you? A. Yes.

Q. Consequently, you should make entries in

(Testimony of Demetri Antippas.)

your log as a basis for determining what the performance record is?

A. No. You can read that from your thermometer and from your pressures.

Q. But there is a place for the entry in your logbook, isn't there? A. Yes, there is.

Q. It was only made on October 16th, the only time that entry was made?

A. That is correct.

Q. You don't know of your own knowledge whether that auxiliary pump was used or not, do you? A. I do.

Q. Didn't you state in your testimony earlier that the last time you were in Seattle prior to the departure of that vessel was about September 4, 1948? A. That is correct.

Q. You didn't see the vessel again, did you, until about November 11, 1948?

A. That is correct.

Q. And the ship had been on a long voyage down to Manzanillo and back to Los Angeles during that period, isn't that correct? [1229]

A. That is true.

Q. Not being aboard the vessel, you don't know what was done with respect to the use of the pump, do you?

A. I do know from reports of the chief engineer.

Q. You are basing it on what the chief engineer told you?

(Testimony of Demetri Antipapas.)

A. From daily reports from the chief engineer which I required from him.

Q. Do you know whether he used that pump commencing November 4, 1948?

A. Yes, he did.

Q. He did use it on that date?

A. I believe he did.

Q. But not prior there to?

A. Not prior thereto.

Q. Would it be proper to make an entry in the log showing the use of the pump on that date?

A. No, not necessarily.

Q. It is an abnormal procedure, isn't it?

A. It was an abnormal voyage; the vessel had broken down.

Q. As a matter of fact, there is no record in the log showing that the pump was used, is there?

A. There is no record whatsoever.

Q. When did you translate the manual that was put [1230] aboard the vessel by The Union Diesel Engine Company?

A. I had a manual in New York which I translated and sent copies of the translation to the chief engineer. That was not at his request. I did that long since the day he went on board the vessel.

Q. All of the entries in that manual were translated?

A. Well, the most important ones. He could read most of it, anyway.

Q. When did you send it to him?

(Testimony of Demetri Antippas.)

A. At various intervals. I would translate a part, and I would let him have it just the same way as I translated it, all the nomenclature of the various valves and switches on the boat.

Q. You never notified Mr. Black or Mr. Featherstone concerning that breakdown at any time, did you, Mr. Antippas?

A. Are you referring to the main engine breakdown?

Q. That is right. A. No, I did not.

Q. You received a telegram from the master of the vessel stating quite fully the character of the breakdown, didn't you?

A. It was the opinion, I should say, of what they thought at the time was the breakdown of the vessel.

Q. When did you receive that letter?

A. I believe after the service man went on board. I [1231] don't recall the exact date. It was after the Union Diesel service man went on board.

Q. You were in communication with the master by telephone during this period?

A. Constantly.

Q. You notified him as soon as you had information of the breakdown to return to Los Angeles where repairs were effected, didn't you?

A. That is correct.

Q. You were acquainted with the fact that the matter had stated in a telegram to your company that the appearance of work on the exterior of the

(Testimony of Demetri Antippas.)

engine was such as to require the return to port for a full inspection of bearings, pistons, liners, etc., isn't that true?

A. That is not a report made by the captain. The captain did not send me any telegram of that kind.

Q. Handing you Exhibits A-9 and A-10, you will find some telegrams or copies thereof among those exhibits. Will you read one dated November 1, addressed to Antippas, Forest Hills, Long Island, New York, signed by Beis?

A. Yes. It says, "Union Diesel service man advises"—it is a report of the Union Diesel service man, transmitted to me by the captain.

Q. Read the telegram.

A. "Union Diesel service man advises that vessel [1232] Urania proceed to port on West Coast USA and that the service of additional service man of Union Diesel be made available upon arrival. All gears are now installed but from appearance of some of the careless work on the exterior of the engine believes bearings, pistons and liners be closely examined. All of the air, water and lube oil tubing were badly kinked when installed in Seattle and from the appearance of workmanship done there service man unable to safely pass inspection of engine. Facilities in Manzanillo not adequate for even an inspection. Will try to contact Demetri at his house by ship's telephone tonight." New York time 11 o'clock, and so on, signed "Beis."

(Testimony of Demetri Antippas.)

Q. If you knew the character of this breakdown at that time and had until November 11 in which to make arrangements for inspection of the vessel upon her arrival in Los Angeles, why then did you not notify Commercial Ship Repair if you felt that they were in any way responsible for these repairs?

Mr. Howard: Objected to as being not within the proper scope of the direct examination.

The Court: Is there any response?

Mr. Hokanson: He has gone into this breakdown at some length. I think it is very important here.

The Court: By this witness, do you seek information tending to establish or disestablish what issue? [1233]

Mr. Hokanson: Tending to establish that we were never notified of this situation, never given the opportunity to make an inspection on the spot and to determine with our own experts what caused this breakdown.

The Court: The objection is overruled.

A. Would you read the question?

(Last question read by reporter.)

A. I did not know what caused the breakdown, and therefore I could not say that Commercial Ship Repair was responsible for it.

Q. Isn't it true that these lubricating oil coolers were taken off the vessel on or about November 12?

A. I know they were taken out; I don't recall

(Testimony of Demetri Antippas.)

the exact date. It may have been the 12th or 13th, I don't know.

Q. You got a report on them immediately, didn't you?

A. Not immediately. It was the next day, I believe.

Q. You had the opportunity then, if you felt Commercial Ship Repair was responsible, to notify them of the situation, did you not?

A. I had not—I suppose I could, yes.

Q. But you didn't give them the chance?

Mr. Howard: That is objected to. I think he should ask him what he did without——

The Court: The objection is overruled. [1234]

A. It all depends on how you put it, not giving them a chance. Would you please let me know in a little more detail what you mean?

Q. I think the question is clear. If you can't answer it, I won't pursue it further.

What happened to the gears that were taken off this vessel?

A. I believe they were left on the vessel.

Q. Did you make any effort to produce them here for the trial? A. Yes, I did.

Q. This trial has been pending since about November of 1948, has it not?

A. I believe so, yes.

Q. And during that time the *Urania* has been in and out of the States several times, has she not?

A. Twice, I think.

(Testimony of Demetri Antippas.)

The Court: What state do you refer to in that question?

Mr. Hokanson: The United States, Your Honor.

Q. You have seen the vessel since, have you not? A. I have seen her once.

Q. Do you know where the gears are now?

A. I don't know. I thought they were on board, but apparently they are not. [1235]

Q. What happened to the oil sample that was taken on November 4, if you know, Mr. Antippas?

A. Only from what was reported to me I can tell you.

Q. It was not preserved, was it?

A. It was preserved by the chief engineer, and apparently the steward found it and not knowing what it was he just threw it overboard. It was in a glass.

Q. Did you have anything to do with the testing of these heat exchangers?

Mr. Howard: Where and when, counsel?

Mr. Hokanson: We are talking about the situation now in Los Angeles or Long Beach.

A. Well, to the extent that I knew that finally we arrived at that conclusion that that must be the reason, when we found the salt water; and to the extent I knew they were taken out to the shop; and to the extent that I received the reports, but not by actual seeing.

Q. At whose direction were they removed from the vessel?

(Testimony of Demetri Antippas.)

A. They were removed from the vessel at the direction of Mr. Newell, who suggested that they were the cause of this breakdown.

Q. Did he tell you that at the time?

A. Yes, he told me that at the time, I believe.

Q. Why then didn't you direct that they be tested before they were cleaned, and determine whether leaks then [1236] existed in the coolers?

A. First, it isn't up to me to say how this test is going to be carried out. There are accepted practices by the people who do such work.

Q. So far as you know, no effort was made to test them before they were cleaned, is that right?

A. I know that you cannot determine leaks unless you clean them. That is from my own personal knowledge, of course.

Q. You mean to say if there are leaks in a cooler they won't show up unless the cooler is cleaned?

A. They will show, but you won't be able to see the exact source of it unless you clean it. As you heard the testimony before, there is such a minute opening you can't trace it even when it is cleaned.

Q. You heard Mr. Lund testify the other day that he had paid at your authorization for the services of Commercial Ship Repair machinists and electrician at Port Angeles, Washington, in connection with repairs to the telemotor, do you remember that testimony? A. Yes, I do.

Q. You authorized payment of that bill, did you not?

(Testimony of Demetri Antippas.)

A. I authorized it by telephone before I received the bill.

Q. If you felt that that was the responsibility of [1237] Commercial Ship Repair, why did you pay the bill?

A. I did not know that Commercial Ship Repair men were employed in this repair. I was aware that Mr. Clarke had left from here with two workmen, I didn't know where they came from. As a matter of fact, I insisted on the payment then to clarify the situation.

Q. Did Mr. Lund tell you who made those repairs?

A. No. I just found out about it when I got the report.

Mr. Hokanson: I have no further questions.

Redirect Examination

By Mr. Howard:

Q. Do you know why the standby fire pump was used in November, 1948? A. Yes, I do.

Q. Why?

A. The engine was overheating.

Q. What would be the purpose of using the standby fire pump?

A. When the engine overheats, it is apparent you have to cool the engine in some way, and the only way is to increase the cleansing agent through the water cooler.

Q. Through the water cooler?

A. That is right, through the water cooler.

(Testimony of Demetri Antippas.)

Q. Would that increase the pressure of salt water through the lubricating oil cooler?

A. Possibly.

Q. What effort did you make to locate these gears that were replaced on the Tanker Urania?

A. I sent a man down to the Gulf port where she was located, with the express task to try to find those gears. As a matter of fact, I tried to find both sets of gears, if possible.

Q. Did he locate them?

A. No. His answer was that he could not locate them on board.

Q. Do you know what happened to the gears?

A. I can only venture a guess.

Q. Do you know what happened?

A. I don't know, no.

Mr. Howard: I have no further questions.

The Court: The point that I wish to inquire about is: did you or anyone else for you determine the amount of actual fuel oil consumption on the Urania from the time of this breakdown on October 26, I believe, until the vessel proceeded from Long Beach on the remainder of the voyage after making the repairs in the Craig Yard at Long Beach, or wherever the repairs were made in a Southern California port? Did anyone on your [1239] behalf determine the actual amount of fuel oil consumption during that lay-up period?

The Witness: I did, Your Honor, myself.

The Court: How much was it?

(Testimony of Demetri Antippas.)

The Witness: I will have to refer to notes which I haven't got here, Your Honor.

Mr. Howard: Do you have them in the courtroom?

The Witness: No.

Mr. Howard: Are they with you in Seattle?

The Witness: Yes, they are.

The Court: I wish the Court to have that information.

Mr. Howard: We will undertake to provide it right after the noon recess.

The Court: The amount and value is what the Court would be interested in in that detail.

Mr. Hokanson: No further questions.

The Court: Step down.

(Witness excused.)

The Court: Call the next witness.

Mr. Howard: Your Honor, that completes the cross-libelant's case in chief, with the exception that we would like to undertake to provide this information by this witness as to the fuel consumed from the notes he has available right after lunch.

The Court: Court is recessed until 1:30. [1240]

(At 11:57 o'clock a.m., Thursday, April 14, 1949, proceedings recessed until 1:30 o'clock p.m., Thursday, April 14, 1949.)

Seattle, Washington

(Testimony of Demetri Antippas.)

April 14, 1949, 1:30 o'Clock P.M.

Mr. Howard: I would like to recall Mr. Antippas.

DEMETRI ANTIPPAS

was recalled as a witness by and on behalf of respondent, and having been previously duly sworn, was examined and testified as follows:

Redirect Examination

By Mr. Howard:

Q. Do you have with you now a computation of the amount of Diesel oil which you claim to have been consumed by reason of the breakdown and return of the vessel to Los Angeles for repairs?

A. I do.

The Court: Can you give the dates as to when it was consumed?

Q. Will you indicate the dates that this covers?

A. Yes. One day, from the breakdown, which was late in the evening, late in the night of October 26, to the arrival of the vessel at Manzanillo, one day's consumption, which is rated at 16 barrels per day, so 16 barrels for that day. Six days in Manzanillo while the vessel was under repair and for the trial run, 35 barrels.

Q. Figured at how many barrels consumption per day?

A. Five barrels for all the auxiliaries.

The Court: Six days while the vessel was laid up at Manzanillo?

(Testimony of Demetri Antippas.)

The Witness: That is correct, Your Honor. That would include the trial run, the 35 barrels.

The Court: That was 35 barrels consumed during those six days?

The Witness: That is correct. From Manzanillo on the way to Los Angeles up to the time of the breakdown, 36 hours run at full speed, would give us 24 barrels consumption.

The Court: By "Los Angeles," you mean Long Beach?

The Witness: Yes, that is what I mean, Your Honor.

Q. That is up to the period of the breakdown?

A. That is correct.

Q. And your next item?

A. Would be from the time of the breakdown, while the vessel went on tow, up to the time she arrived in Los Angeles, six days, part of which were the engine being under operation, would give us 30 barrels.

Q. At what rate of consumption per day?

A. Approximately five barrels per day.

The Court: I do not know that I understand what was said about subsequent to the breakdown.

The Witness: Subsequent to the breakdown, Your Honor, the engine was operated for an hour at a time, and, of course, also for the operation of auxiliaries. It was six days for the elapsed time, and about 30 barrels were expended.

(Testimony of Demetri Antippas.)

Q. Your next item?

The Court: Have you a computation there from the time of the breakdown off Long Beach until the arrival at Long Beach, of the number of barrels?

The Witness: You mean from off Manzanillo?

The Court: Wherever it was 36 hours after you left Manzanillo; there was a breakdown and during that 36 hours there were 24 barrels consumed?

The Witness: That is correct.

The Court: After that time until the arrival, have you a computation?

The Witness: Yes; thirty barrels.

The Court: After that?

The Witness: Los Angeles, six days while under repairs, twelve barrels.

The Court: Does that mean Long Beach?

Mr. Howard: Yes, Your Honor, Los Angeles harbor includes Long Beach.

The Court: After the arrival at Long Beach, I ask again how many barrels did you use during the breakdown?

The Witness: We used twelve barrels while alongside the pier, dock trials and everything. For the trial trip, we used eight barrels; and then five and one-half days sailing for the vessel to return to Manzanillo, 88 barrels.

The Court: What does that make the total?

The Witness: 213 barrels at \$3.35 per barrel.

(Testimony of Demetri Antippas.)

Q. Do you have a figure on that?

A. Yes. \$692.25.

Q. Was some oil furnished to the salvage tug that towed the vessel in?

A. Yes. I believe we furnished—I don't remember the number of gallons. I remember the amount we were credited with, \$168.00 for that fuel, which was taken off the bill, of course. [1244]

Q. So that that Diesel fuel that you furnished the tug really made up a partial payment on your towing charge? A. That is correct.

Q. Is that shown on the Pacific Towboat & Salvage Company invoice now admitted in the record as Exhibit A-25? A. That is correct.

Q. Going back to this period in Los Angeles harbor for repairs, six days, you say you used 12 barrels? Why do you compute that at a lower rate?

A. We used shore current and we only used our auxiliaries for certain other purposes; pumping, cleaning the tanks and things like that, the usual operation of the boat.

Q. State if you know whether the price of \$3.35 per barrel was the going market rate for this grade of bunker Diesel fuel oil at San Pedro in November 24, 1948?

A. That is according to our contract, in which we have a scale.

Mr. Howard: I have no further questions.

(Testimony of Demetri Antippas.)

Recross Examination

By Mr. Hokanson:

Q. Did I understand you to say that your rate of consumption per day of fuel oil was 16 barrels?

A. That is correct. [1245]

Q. That is at what speed?

A. That is at, I believe, 280 revolutions.

Q. I understand you to say you estimated a consumption of 30 barrels of oil between the date of the second breakdown, which my record shows was on November 5, until the vessel arrived at Los Angeles?

A. That is correct.

Q. Would your estimate be the same if the log disclosed that during that period the engine was run for a total of only 8 hours at a speed of 140 revolutions?

A. Yes, because we also ran our auxiliaries, and the figure given there is not mostly based on hours of running of the engine; it is based on hours of running the auxiliaries, five barrels a day.

Q. No further questions on that line, but before you step down, Mr. Antippas, would you do me the favor of translating the log entry in the engine log for September 4, 1948? Would you look at that entry?

A. Yes.

Q. Does it not state, "Cleaning and testing by hydraulic pressure of the oil and water cooling radiator of main engine"?

A. That is correct.

Q. Would you turn now to the deck log?

(Testimony of Demetri Antippas.)

A. Which day do you want me to turn it to?

Q. For October 29, and tell me whether the entries for that date are in English or in Greek?

A. In the deck log?

Q. October 29, in the deck log.

A. It is in English.

Mr. Hokanson: That is all.

Mr. Howard: That is all.

The Court: You may step down.

(Witness excused.)

The Court: Call the next witness.

Mr. Howard: That concludes cross-libelant's case in chief, if the Court please.

The Court: As I understand it, cross libelant rests?

Mr. Howard: That is correct, Your Honor.

The Court: How many parties for cross-libelant are there? Only the Compania Naviera Limitada?

Mr. Howard: Just the corporation, the one company, Your Honor.

The Court: Cross respondents and libelants may now proceed.

Mr. Hokanson: May it please the Court, will the Court allow counsel for cross-respondents ten minutes to make a motion? [1247]

The Court: I will allow you to make the motion. You may proceed.

Mr. Hokanson: Come now the cross respondents and move for the entry of an order dismissing the cross libel of the cross-libelant in this action

on the ground and for the reason that no evidence has been introduced in this cause sufficient to establish a prima facie case which would develop a proximate relationship between the damages here testified to and the work performed by Commercial Ship Repair, the cross-respondent.

With the Court's permission and in the interests of saving some time with respect to testimony by way of defense, Mr. White would like to address the Court on two items of the cross-libel.

Mr. White: Your Honor, the items on which I wish to address the Court are the delay charges at Winslow, Washington, and the loss of profits item. In the first place, on the delay, testimony in the record is that there was no delay at Winslow, Washington. I am quoting directly from a transcript of Mr. Williams' testimony, who was the agent of the cross-libelant:

"Q. If you know, was there any urgency about the completion of this job?

A. Not that I know of.

Q. Did Mr. Antippas ever request that the job be [1248] hurried along?

A. The last week or so, he was uneasy. He wanted to know when it would get out.

Q. By the last week, you have reference to the last week you were in Winslow?

A. That is right."

Your Honor, there is no definite—that may be a conversation advisory to when the ship may be ready, but there is no evidence either from the lips

of Mr. Antippas or from the lips of his man Mr. Williams as to any delay.

The Court's attention is called to the case decided by Judge Neterer, which is cited in cross-respondents' brief, page 6. It is a lengthy citation which I will just read a small portion of. The identical problem was at issue there.

"There must be a mutual promise and a agreement, and there is none such in the record. The mere conversation advisory with relation to time, etc., is not sufficient, but the understanding must be definite and positive."

Then further on he states:

"It is not reasonable to presume that the claimants would have silently stood by in the daily performance of the work by the libelant if the understanding had been as contended for by the claimants. Human nature and self-interest do not operate in that way." [1249]

It is submitted, Your Honor, that had there been any agreement as to the specific date, certainly Mr. Antippas or his representative would have complained to Commercial Ship Repair. There is not even a scintilla of evidence in the record that any such was ever done.

Moreover, as far as the original contract is concerned, by Mr. Antippas' own testimony he has waived the strict compliance with the provisions of the original contract. He has testified twice that he was not in any hurry about it, and so advised Commercial Ship Repair that he would not hold them to the eighteen days' provision.

Furthermore, Your Honor, wherever there is extra work ordered, that would extend the contract in any event, so it is our contention that on that particular point Judge Neterer's decision is controlling; that here in the absence of any positive and definite agreement as to a specific date on which the ship would be ready that there is no issue of fact raised.

With respect to the loss of profits, briefly, Mr. Wallace testified this morning, he again being the agent of the cross-libelant, that at the time this ship was in Winslow during the time of the breakdown, it was impossible to get a charter of the ship, and that they did attempt to, and that the only attempt which even [1250] proceeded to any degree fell through. He said—I am not quoting him verbatim, but as I recall he said something like this, that it was very difficult at that time to obtain a charter for the ship, and that efforts were made. Certainly the inference would be that if efforts were made, there would be some more substantial testimony than there has been as to any possibility of charter.

The Court's attention is called in this connection to *Todd Erie Basin Dry Docks vs. The Penelopi*, which is cited, I might add, in cross libelant's brief. They have the American Maritime citation. The Federal Reporter citation is 148 F. (2nd) 884. I think it will be conceded by both parties that this case is probably the latest. It is a Second Circuit

case, probably the latest declaration of competent authority on this particular subject.

This was a reversal of the District Court on the ground that the District Court had imposed too heavy a burden upon the owners to show their loss of profits. However, even in reversing the determination of the District Court of Appeals, the Circuit Court said:

“(2) In so far as the court’s decision rests on the statement in the opinion that it was incumbent on Polar to prove “that it was willing to charter the vessel to some known agent for a specified voyage at an agreed rate,’ [125] we think it imposes a rule of proof more exacting than the controlling authorities require . . . Mr. Justice Brown stated that demurrage ‘will only be allowed when profits have actually been, or may be reasonably supposed to have been, lost, and the amount of such profits is proven with reasonable certainty’.”

Now, in this case we have no competent testimony as to profits that might have been made. In fact, the evidence by their own agent is to the contrary, and we submit on those two items that there isn’t a scintilla of evidence in the record which will support a judgment. On the other items, we feel the same way; however, we have many witnesses here this afternoon and we feel it would not be proper to argue the rest of the items at length at this time.

The Court: I will be glad to hear from cross libellant on these two items.

Mr. Howard: Very briefly, Your Honor, as far

as the extras at Winslow are concerned, and the delay in completing the repairs, I call Your Honor's attention to Respondent's Exhibit A-1, being a letter signed by Mr. Black on behalf of cross respondent, in which he proposed to do this work in 18 working days.

I call Your Honor's attention also to the computation of time which is contained in the trial brief that has been filed, from which it will be apparent that the [1252] cross libellant is not seeking a recovery for all of the time beyond the 18 working days until the repairs on the vessel were completed. The time has been allocated on the basis of what we think would be the most logical breakdown between the time required to perform the extra work and the delay in completing the contract work.

As far as loss of profits is concerned, we submit that the proof on that is still a matter to be decided by the Court. As to the other periods of time involved in the claim in the cross libel, such as loss of profits during delay at Manzanillo and at Long Beach, we submit there has been ample evidence offered in this case to substantiate a claim for loss of profits.

I recognize the authority which counsel has cited, and I have called it to the Court's attention in my memorandum of authorities on this particular point; and as to that item we strongly maintain that we have made an offer of proof sufficient to establish our loss of profits during the periods covered. I understand counsel's motion to go, however, only

to the two items, being items 3 and 4 of the cross libel relating to the expense incurred during delay at Winslow, Washington, and the loss of profits during that period, and that their motion does not go to the items in the cross libel relating to loss of profits and expenses in Mexican and [1253] California waters. If I am mistaken in that, I would like to be corrected.

Mr. White: It goes to both, counsel.

Mr. Howard: And you argued it from the standpoint of the items at Winslow.

The Court: The Court is ready to rule. The Court denies the motion to dismiss the cross libel, but advises counsel on both sides that the Court does not intend to allow any recovery on the cross libel respecting the first two items mentioned; one, respecting delay in doing of the repair job while the vessel was at Winslow, and two, respecting loss of profits during such alleged delay.

The Court is of the opinion that any original understanding which may have been had was modified and waived by the subsequent conduct of the cross libelant, and that no certainty as to loss of profits during the delay in the making of the repairs while the vessel was at Winslow; clearly not within such degree of certainty as would authorize the Court to allow a recovery on account of such loss of profits.

The Court will hear any further testimony that may be offered respecting the item which the Court now denominates as the third item; namely, the

expenses and repairs and damages for delay while the vessel was in [1254] Mexican and California waters and ports. The Court will consider that further upon the close of all the evidence in the case.

The cross respondents and libelants may now proceed in respect to their answer to the other items of the cross libel not disposed of by the Court's announcement of intention.

(Opening statement made by counsel for libelants and cross respondents.)

The Court: Call the cross respondents' first witness.

Mr. Hokanson: Mr. Oakland.

WALTER W. OAKLAND

called as a witness by and on behalf of libelants, having been first duly sworn, was examined and testified as follows:

Direct Examination

By Mr. Hokanson:

Q. State your name, please.

A. Walter W. Oakland.

Q. Where do you reside?

A. Winslow, Washington. [1255]

Q. What is your occupation?

A. Foreman of the pipe shop at Commercial Ship Repair.

Q. How long have you held that position?

A. I have been with the Commercial Ship Repair ever since they bought the yard, and I was over at this yard for about 30 years last October.

(Testimony of Walter W. Oakland.)

Q. At the Winslow yard? A. Yes, sir.

Q. During that 30 years, what has your experience been? A. Beg pardon?

Q. What have you done as an employee of the yard during those 30 years?

A. I have been foreman of the pipe shop all the time.

Q. Do your duties as foreman of the pipe shop include the cleaning and testing of heat exchangers?

A. Yes.

Mr. Howard: I object to that as leading.

The Court: Sustained. Ask him what his duties include.

Q. What do your duties include as pipe shop foreman with respect to items of repair and inspection of vessels?

A. Well, anything in relation to pipe work, and any repairs, and new installations or repairs or testing equipment.

Q. What kind of equipment? [1256]

A. Coolers and heat exchangers, piping, by air bottles, tanks, and so on like that.

Q. During your 30 years of experience, Mr. Oakland, do you have any estimate of how many coolers you have cleaned and tested during that period?

A. I wouldn't have an accurate estimate, but I would say around hundreds or more, different types.

Q. Were you working in the yard, the Winslow yard, during the months of August, September and October of 1948? A. Yes, sir.

(Testimony of Walter W. Oakland.)

Q. Do you remember the Motor Tanker *Urania*?

A. Yes, sir.

Q. Do you remember whether the heat exchangers from the *Urania* were ever in your pipe shop?

A. Yes, sir.

Q. Which ones, if you know?

A. All of them; for the auxiliary engines and the main engine.

Q. How many heat exchangers were there for the main engine of the *Urania*, if you remember?

A. Two heat exchangers, and one lube oil cooler.

The Court: What kind of a cooler?

The Witness: Lube oil cooler, sir.

Q. When you speak of a heat exchanger as contrasted with a lube oil cooler, what do you mean?

A. The heat exchanger is changing the heat temperatures from fresh water by cooling it with salt water. A lube oil cooler, you change the temperature of the lube oil by the salt water passing through the cooler.

Q. Were these heat exchangers of the same type on the *Urania*? A. Yes, sir.

Q. What kind of heat exchangers were they, if you remember?

A. I believe they were the Harrison type.

Q. You have reference now to all three, the heat exchangers and the lube oil cooler?

A. Yes, sir.

Q. Do you remember when these heat exchangers and cooler were in your shop?

(Testimony of Walter W. Oakland.)

A. I don't have a recollection of the exact date, but it was the fore part of September, I think.

Q. Could you state the circumstance with respect to how these exchangers and the cooler got there?

A. The chief engineer stopped me on the boat, and he didn't talk very good English. He pointed out these heat exchangers and lube oil coolers laying on the deck, and he told me he was going to have them—wanted me to clean and test them. He used the name “press” for test.

Mr. Howard: Used the name what? [1258]

The Witness: Press. He meant pressure; he says press.

Q. Was there any further discussion concerning the items at that time?

A. The only thing that I told him, he would have to send them to the shop and I would take care of it. I asked him how much pressure he wanted put on, and he said 50 pounds, and I asked him “50 pounds, okay?” and he says, “okay” and done like that (indicating).

Q. What happened thereafter, if you remember, concerning these heat exchangers? Were they sent to the shop?

A. The cleaning crew from the yard brought the heat exchangers and lube oil cooler up to the pipe shop and set them in the shop, and I started in getting prepared to clean them with a chemical cleaning——

Q. When was that?

(Testimony of Walter W. Oakland.)

A. That was the next day, I think the same day that they sent them up.

Q. Could you describe what you did to the heat exchangers and the cooler?

A. I used a sump pump, which is a centrifuge pump, set that in a five-gallon bucket; then put my chemical in there, the acid in there for cleaning the salt water side first. Then I connected the pump under one side of the cooler and a piece of hose to the other side back into the [1259] bucket. We started the pump and that circulated acid through the cooler. I circulated four hours that way and then reversed the direction of flow so it went through the cooler the opposite direction, so in case there was any particles lodged in it it would take them out, and I circulated it four hours that way.

Then I washed them out with fresh water, putting a little baking soda in to neutralize the acid, and then took the air hose with a small chain on it and blew the cooler out.

Then I done the same procedure with the oil side of the cooler, only I used a different chemical. It was an oil-cleaning chemical that was circulated through the oil side of the cooler, and reversed the direction of flow on that the same way, and then I took an air hose and blew that out, and took the heads off from each end of the cooler and put 50 pounds pressure test on with the water hose and looked it over to see if there was any leaks. I didn't see any leaks, so I went down to the ship

(Testimony of Walter W. Oakland.)

to tell the chief engineer to come down and look at it, and he sent the second.

Q. What do you mean by "the second"?

A. The second assistant engineer, I should say, and he came up and looked it over, both ends of it, and he says "okay" and walked off.

Q. Was there anyone else present during the test, if [1260] you remember?

A. Frank Gallagher, the American Bureau inspector, was looking at it.

Q. How long did you run this test?

A. I run the test, I would say, around 20 minutes or maybe a little longer. I left the test on long enough for me to go down to the ship, get the engineer and come up and have him look it over, besides the time it took me to look it over. I would say 20 minutes or a little more.

Q. How did you regulate the pressure?

A. I had a pressure gauge connected on to the hose line going to the cooler with a valve on the gauge. When I got 50 pounds on it, I shut the valve tight, disconnected the hose feeding it, and let the pressure stand on the cooler.

Q. What kind of chemical did you use to circulate through the salt water side, if you remember?

A. It was called Jamlen's salt water cleaning compound.

Mr. Howard: Gamlen's, did you say?

The Witness: No, J-a-m-l-e-n's.

Q. Do you know what type of chemical that is?

(Testimony of Walter W. Oakland.)

A. No, I don't. It is their own secret.

Q. Does it have acid qualities?

A. It has acids, I don't know just what they are, and then you are to mix that with water, dilute it with water. [1261]

Q. In what proportion?

A. It all depends on the dirt and accumulation you have to move. It runs from 6 - 1, 6 of water to 1 of chemical, up to 8 to 1, 10 to 1.

Q. Do you remember what it was in this case?

A. I think, if I remember right, it was 8 water to 1 acid.

Q. What is the temperature of the cleaning fluid?

A. I kept the cleaning fluid, the acid, for the salt water side around 80°. They recommend keeping it warm. It will clean faster and better by keeping it warm while it circulates.

Q. What kind of solution did you use on the lubricating oil side of the cooler?

A. That is a Jamlen's compound too, and that is used straight.

Mr. Howard: Used straight?

The Witness: Yes, you don't dilute that.

Q. After you had run this hydrostatic test, were any leaks discovered in these exchangers?

A. We didn't find any leaks.

Q. In the cooler? A. In the cooler, either.

Q. Was there anything else done to the cooler or the heat exchangers? [1262]

(Testimony of Walter W. Oakland.)

A. After the test, we were through. I drained it all out and I put the two heads back on, made new gaskets, put the two heads back on, bolted them up and had the machine shop make up zinc pencils to go in. There is two zincs go in each one.

Q. What are they?

A. They are screwed in from the side right through the line of flow of salt water.

Q. What is the purpose of that?

A. That is to counteract the galvanic action.

Q. At what point are they inserted? Are they inserted in the cooler itself or in the pipe that leads into it?

A. Beg pardon?

Q. Where are they inserted on the cooler?

A. Through a hole that is tapped in the side of the cooler, in the neck of the flanged part that goes into the cooler, so your zinc pencil is directly in the flow of salt water before it comes to the core.

Q. Do you know what happened to the coolers after they left your shop?

A. I don't know. I just done all this under the direction of the chief engineer.

Q. You described the method you used on those heat exchangers. What is the usual practice in cleaning heat [1263] exchangers?

A. I would say that that is the usual practice, a common practice in shipyards. In regard to the test pressure, that would depend on your inspector or your chief engineer or the amount of working pressure that is required on a ship; and the Ameri-

(Testimony of Walter W. Oakland.)

can Bureau rules on that I think calls for twice the working pressure, twice the operating pressure, but not less than 15 pounds.

Mr. Hokanson: May it please the Court, I recognize that much of the testimony concerning this case is technical in character, and for the purpose of illustration and with the hope of assisting the Court in understanding more fully the matter that we are discussing, I have here for identification a heat exchanger and will ask that it be marked at this time.

(Heat exchanger marked Libelants' Exhibit 16 for Identification.)

Q. Could you step down a moment and examine this exhibit?

The Court: Ask him what he calls that exhibit.

Q. Showing you what has been marked for identification as Libelants' Exhibit 16, I will ask you to state what that is, if you know. Do you know what this is? A. Yes, sir.

Q. What is it? [1264]

A. That is a lube oil cooler.

Q. Do you know what type it is?

A. It is a Harrison type cooler.

Q. If you remember, is that the same type cooler as to construction that came off the Motor Tanker Urania?

A. It is exactly the same cooler, with the exception that the cooler on the Urania was larger. It was what they call a 3 inch cooler, which would

(Testimony of Walter W. Oakland.)

be an inch and a half wider, probably 2 inches wider and 3 or 4 inches longer.

The Court: I personally do not see any use of cluttering up the record with an exhibit that is not the thing that was worked upon in this case, but you may proceed.

Mr. Howard: If the Court please, as Mr. Antippas testified in our case this morning, we have had the cooler brought out here that was on the Urania and we have it right here in Seattle. I seriously considered bringing it in and offering it as an exhibit, but because of the size of it I did not do so, but I am willing to bring it in in rebuttal.

I make that statement now because if the Court is going to consider a heat exchanger, I propose to bring in the actual heat exchanger that was on the vessel.

The Court: Counsel on both sides in that connection should consider, if an appeal is taken from this Court's [1265] decision, what you would want to do with that kind of exhibit in presenting the appeal to the Appellate Court. You should not have anything before this Court that you do not think is practical to carry before the Appellate Court in case there is any review.

Mr. Hokanson: Very well, Your Honor. I will withdraw the proposed exhibit. I had in mind that that would be helpful to the Court in a full understanding of what is being testified to here.

The Court: The best way to help this particular

(Testimony of Walter W. Oakland.)

trier of the fact is to get the information in words.

Mr. Hokanson: Very well, Your Honor. I will withdraw the identification.

The Court: If you get all of the information submitted to the trial court in words, then you can get the same information exactly before any appellate court. This exhibit is withdrawn and returned to counsel who produced it.

Q. Calling your attention to Libelants' Exhibit 4, would you read the last sentence on the first page thereof, and tell me, if you know, what that particular item covered in connection with the *Urania*?

Mr. Howard: If you know.

A. "Furnish labor and material to repair circulating system of main engine as necessary." Well, that was a little [1266] indefinite in the writing up of this work order. It was at the time they had turned the water onto the main engine to start the circulating going, and they found two pieces of 3 inch pipe that was leaking, and so the chief brought them up to me, asked me if I would renew them. I should say he sent them up to me by the second engineer.

Then there was two fittings on the after end of the engine that was cracked and I renewed those, and there was a short piece of three-quarter pipe in the forward end of the engine that he wanted renewed, too, and that was what this particular item referred to.

The Court: Read it again.

(Testimony of Walter W. Oakland.)

The Witness: "Furnish labor and material to repair circulating system of main engine as necessary."

Q. Do you know whether a shop order was issued covering the cleaning and testing of the heat exchangers and cooler that you have testified to here?

A. They were going to. I understand from the office they were going to issue an order and then they changed it and said it wasn't necessary, that it would come under—I think it was item 10.

Mr. Howard: I object to this witness testifying further as to that. He has testified they turned on the water, and then he is talking about their doing so and so. It is obviously hearsay and is not tied in [1267] with whoever it may be.

The Court: The objection is sustained.

Make it definite with questions or see that the witness is definite in his answers.

Q. In your last answer, you were referring to "them". Whom did you mean?

A. I mean the engineroom crew.

Mr. Hokanson: You may examine.

Cross-Examination

By Mr. Howard:

Q. How many men do you presently have working under you in the pipe shop?

A. Right at the present, I have four.

Q. Do you recall how many men were working under you in August or September of 1948?

(Testimony of Walter W. Oakland.)

A. I think there were eight, six or eight, I have forgotten just which. I believe it was eight.

Q. In the pipe shop? A. In the pipe shop.

Q. You are the foreman of that shop?

A. Yes, sir.

Q. What brings back to your memory so distinctly these coolers off the Tanker Urania?

A. Well, just merely that I know I remember the heat [1268] exchangers and coolers on the auxiliaries and the main engine.

Q. You say that there were two heat exchangers and a lubricating oil cooler brought to your shop?

A. Three?

Q. Two heat exchangers and a lubricating oil cooler were brought to your shop? A. Yes.

Q. Were some others brought, too?

A. I am kind of hard of hearing.

Q. Were some other heat exchangers or coolers brought from the Urania?

A. Yes, from the auxiliary engines.

Q. How do you know they were from the Urania?

A. Because the second engineer brought them up.

Q. Who brought up these two heat exchangers and the lubricating oil cooler you first spoke about?

A. They were brought up by the crane crew under the direction of the chief engineer.

Q. The crane crew? The employees of the yard brought them up, didn't they? A. Yes, sir.

(Testimony of Walter W. Oakland.)

Q. You say the chief engineer told you 50 pounds test pressure? A. 50 pounds. [1269]

Q. How did he communicate that to you?

A. He says, "You clean and press." I says, "How much pressure?" He said, "50 pounds." I says, "Okay." That is the words that he used as near as I can remember.

Q. Did you ever see the operation manual covering the maintenance procedure on the Harrison coolers aboard the Tanker Urania?

A. No, I didn't.

Q. Do you know how much pressure is prescribed for testing the coolers on the Tanker Urania in the maintenance manual?

A. I don't know that, because I got my information from the chief. It was all under the direction of the chief.

Q. Was it written out for you, or was it all oral?

A. Beg pardon?

Q. Was it written out, or was it all oral?

A. All oral.

Q. How long was Mr. Gallagher present during this testing?

A. Oh, I suppose five minutes or so, maybe ten minutes, I don't know. He looked the thing over with the second engineer. He was there with the second at the time.

Q. Just five or ten minutes that Mr. Gallagher was there?

(Testimony of Walter W. Oakland.)

A. I didn't check the time on it. They just come in [1270] and looked at it.

Q. How many air lines do you have in your pipe shop?

A. Four, I think, four outlets altogether.

Q. You hooked up one of these heat exchangers and put a test on it, is that right?

A. With water, yes.

Q. And then you hooked up another one?

A. Yes, sir.

Q. Afterwards? A. Afterwards.

Q. And then you hooked up another one, is that right? A. That is right.

Q. And then you had some heat exchangers for the auxiliaries that you hooked up and tested, is that right? A. They were done before this.

Q. Was Mr. Gallagher present when those were hooked up and tested?

A. Yes, he looked at them all.

Q. Did Mr. Gallagher tell you how much pressure to put on those heat exchangers when they were tested? A. No.

Q. You are sure you didn't get any information from Mr. Gallagher on it?

A. He didn't tell me any pressure.

Q. Was Mr. Gallagher present when each of these heat [1271] exchangers or lubricating oil coolers was tested, as each of these heat exchangers was tested? A. Yes, sir.

Q. I thought you said you went down to the

(Testimony of Walter W. Oakland.)

ship and got the chief engineer to send the second engineer up while one of these was being tested?

A. I put the test on and looked over the test while the pressure was on. I left the pressure on, went down to the boat and got the engineer and brought him up, and Mr. Gallagher, and they looked at it at the same time.

Q. How long did that take?

A. At least 15 minutes or so.

Q. Mr. Gallagher was not present all that time, was he?

A. He was in the yard all that time.

Q. Well, he wasn't up in the pipe shop watching the test of the coolers all this time, was he?

A. Not all the time. He came up with the engineer; the two of them came up together.

Q. You had already had the test on the first cooler before he got up there? A. Yes, sir.

The Court: What purpose would be served by your testing for pressure or applying pressure of 50 pounds? What purpose would that serve?

The Witness: Your Honor, it is to see—to locate [1272] if there is any leaks between the salt water and the lube oil on the heat exchangers, between the salt water and the fresh water.

The Court: Did you do any manufacturing or repairing on those exchangers or that cooler?

The Witness: Nothing excepting what we called zinc pencils or plugs made up to put in there.

(Testimony of Walter W. Oakland.)

The Court: How did you put them in? Where did you put them?

The Witness: On the side of the cooler, there is an outlet tapped for three-quarter inch pipe with a plug in it, and on the inside end of the plug, we put a zinc stick, a zinc rod five-eighths or three-quarters of an inch in diameter, one or the other, whatever it happens to be, and the length you can get in there. You fasten this zinc plug to the pipe plug and screw it in there so the zinc is right in the flow of the salt water.

The Court: Why?

The Witness: To do away with the galvanic action, to counteract the galvanic action.

The Court: Action of what?

The Witness: Of the salt water with the metal that the cooler is made of.

The Court: What kind of metal is it made of? [1273]

The Witness: The casing was bronze. I don't know what the core was made of; it looks like it might be bronze.

The Court: How long will that zinc pencil that you put in there last?

The Witness: Well, sometimes I have seen them—they would last probably six months. They generally carried them on board ship.

The Court: What was the process that consumes it or wears it away?

(Testimony of Walter W. Oakland.)

The Witness: It is the galvanic action in the salt water that wears it away, eats it away.

The Court: If it were iron, what would be the process?

The Witness: It would probably rust.

The Court: Is rust the same as oxidization?

The Witness: That is right, sir.

The Court: If the metal being dissolved by the liquid agent or gaseous agent is zinc, the process becomes known as what?

The Witness: I don't know what the correct name for it is.

The Court: Have you used any name already with reference to it?

The Witness: No. [1274]

The Court: What is the galvanizing process? What is that?

The Witness: The galvanic action, they tell me, is caused by air and salt water.

The Court: On what kind of metal?

The Witness: Especially where you have steel or copper and brass together.

The Court: What about zinc? Does it affect zinc?

The Witness: The galvanic action—you use the zinc to counteract galvanic action on the other metal.

The Court: That is the only repairing that you did, is it?

The Witness: That is all.

(Testimony of Walter W. Oakland.)

The Court: Did that cause any sediment in the lubricating oil?

The Witness: None whatsoever.

The Court: Is there anything from that action or process that would cause a sediment that would get into the lubricating oil and be deposited or wear against the gears?

The Witness: No, because this is on the salt water side and it couldn't get in the lube oil at all.

The Court: Is there anything you did in your servicing of those exchangers and that cooler which could have caused a deposit to be made available for [1275] contamination of the lubricating oil—

The Witness: Nothing at all.

The Court: —that might result in depositing abrasives upon the gears?

The Witness: Nothing at all, Your Honor.

The Court: Are you sure of that?

The Witness: Yes, sir.

The Court: How can you be sure?

The Witness: Because all of the chemical—the chemical being the Jamlen's solution, that is known as a lube oil cleaner, doesn't hurt any machinery whatever at all. It is made for that particular purpose.

The Court: Does it have any residue or sediment of any sort in it which could be transferred to the gears?

The Witness: No, it hasn't.

The Court: Are you absolutely certain of that?

(Testimony of Walter W. Oakland.)

The Witness: Not according to our catalogs and according to the instructions from their representatives.

The Court: What about according to your observation and experience? Have you seen or found any such sediment?

The Witness: No, I never have, Your Honor.

The Court: What have you to say with respect to the possibility of there being any such sediment, irrespective of what the manufacturer of the product [1276] says about it?

The Witness: Well, I couldn't imagine why there should be. Everything was cleaned out thoroughly as far as the coolers were concerned.

Q. Where were these coolers in the pipe shop when they were tested?

A. We had them sitting on the floor while we cleaned them, and then we set them up on the bench while we tested them.

Q. Were the coolers or heat exchangers immersed in water while you put air on them?

A. We didn't test them with air; we test with water.

Q. You fill them with water? A. Yes, sir.

Q. And then put air on them?

A. No, no air; put 50 pounds water pressure on them.

Q. Did you notice whether any test pressure was stamped on the heat exchanger or cooler?

A. No, I didn't.

(Testimony of Walter W. Oakland.)

Q. Did the chief engineer specify what cleaning fluid or what solution was to be used in cleaning these heat exchangers? A. No, he didn't.

Q. How many covers are there on one of these heat exchangers? [1277] A. Two.

Q. Where are they located?

A. One on each end.

Q. When you take those covers off, what do you see?

A. You can see the oil end of the lube oil cooler.

Q. Those are the only openings on the cooler, then?

A. No, you have the two flanges that comes off the side for the salt water.

Q. Those are on the side?

A. Yes, off what you might call the side, or the edge.

Q. Are there any other openings on the cooler?

A. Yes, there is a plate goes over the top, the opposite side from where the salt water goes in and out.

Q. What do you see when you take that out?

A. You just see the core.

Q. On which side? On the salt water side.

Q. Were those covers all removed when you cleaned the heat exchangers or the cooler?

A. You couldn't remove the covers while you were cleaning them. You had to leave those on, but after the cleaning is done, then you remove the covers.

(Testimony of Walter W. Oakland.)

Q. Were the covers removed when Mr. Gallagher was up there?

A. Yes, sir, on the lube oil side. [1278]

Q. Both sides? A. Both ends, yes, sir.

Q. And then plugged up again?

A. Put the covers back on again with the new gaskets.

Q. This 50 pounds pressure that you put on, you left that on, as I understand, while you went down to the ship and got the chief engineer to send the second engineer up, is that right.

A. Yes, sir.

Q. Did that pressure remain constant all that time? A. Yes, sir.

Q. Wouldn't that pressure reduce during that period?

A. Not if you didn't have leaks, it wouldn't.

Q. If you had leaks, would it reduce?

A. It would drop down, the pressure would drop down.

Q. It is conceivable that the pressure might have been much less on it when you got back up from the ship?

A. No, because it registered the same when we came back as it did when I put it on 50 pounds.

Q. Then you repeated the same process with each of the others? A. Yes, sir.

Q. Which did you do first, the lubricating oil coolers or the heat exchangers?

(Testimony of Walter W. Oakland.)

A. I think it was the heat exchangers first, as near [1279] as I can remember.

The Court: Was there any other work done in your shop on these parts?

The Witness: No, Your Honor.

The Court: Did you see anyone else do any other work on anything that belonged to that engine or any attachment of the engine?

The Witness: In my shop?

The Court: Yes.

The Witness: No.

The Court: Did you see anything done anywhere else in the yard? ‘

The Witness: No, not on those heat exchangers or lube oil coolers. Of course, Your Honor, we had all kinds of parts of machinery that we were working on in different parts of the yard, but all under direction of the engineer.

Q. You have referred to the last item on that sheet shown as Libelants’ Exhibit 4, “Furnish labor and material to repair circulating system of main engine as necessary.” Do you know how many hours of labor went into that work?

A. No, I don’t.

Mr. White: Objection, Your Honor, on the ground it is not within the scope of direct examination.

Mr. Howard: If the Court please, they have examined [1280] this witness on this last item, what it involved.

(Testimony of Walter W. Oakland.)

The Court: The objection is overruled.

Q. Give us your best estimate, if you can, of the number of hours of labor that went into that work?

A. Altogether on that circulating system there must have been——

Mr. Hokanson: If you know.

A. ——probably four days.

Q. Did you do the work yourself? A. No.

Q. Did the men working under you in the pipe shop do the work? A. Yes, sir.

Q. How many men? A. Two men.

Q. Two men, four days? A. Yes.

Q. That is your best recollection?

A. That is as near as I can remember.

Q. Did they put in a full day, each of them?

A. It has been so long ago, I can't keep a reference on all of these items.

Q. How about materials? Were you required to use any materials on that job?

A. Pipe flanges and flex hose and some fittings.

Q. What is your estimate of the value, cost of that material?

Mr. Hokanson: Now we are getting back into the libel. This has nothing to do with the libel. He is getting into questions of value. This is the cross libel we are trying now. This witness hasn't testified to anything concerning values on direct examination.

The Court: For what purpose?

(Testimony of Walter W. Oakland.)

Mr. Howard: I am testing the recollection of the witness as to what was involved in the last item on Libelants' Exhibit 4.

The Court: Overruled.

Q. Do you recall the question?

A. I wouldn't know the cost on any of that, because I don't have the access to the prices.

Q. There were absolutely no leaks found in any of these coolers that were on test?

A. No, sir.

Q. Did you ever suggest that they be tested at a higher pressure?

A. No. My orders were to do this work under direction of the chief engineer or his assistants, and that is as far as I went with it.

Q. You never saw the test pressure stamped on the cooler? [1282]

A. I didn't stop to look at it on account of the chief engineer give me the orders, what he wanted tested, and I done it according to his orders.

Q. If there had been a test pressure stamped on there, would you have seen it?

A. I would have seen it, probably. If I had examined the coolers I might have found a name plate on it.

Q. Didn't you examine the cooler to see if there was some leaks?

A. Not for the name plate. You don't have the name plate on that end of the cooler.

Q. So your statement to us now is that if there

(Testimony of Walter W. Oakland.)

had been a stamp on there as to the test pressure on the heat exchangers or coolers, you would have seen it?

A. I could have seen it if I had looked for it.

Q. But you weren't looking for it?

A. I wasn't looking for it.

Mr. Howard: That is all.

Redirect Examination

By Mr. Hokanson:

Q. After you ran the Jamlen solution through the lubricating oil chambers or tubes, was anything else done in connection with the cleaning process?

Mr. Howard: That is objected to as repetitious and not proper redirect examination. He already went into that, if the Court please, on direct examination.

Mr. Hokanson: Your Honor, I am merely asking the witness to testify as to this matter which was developed by Your Honor in questioning the witness concerning the possibility of——

The Court: The objection is sustained.

Mr. Hokanson: No further questions.

The Court: Step down.

(Witness excused.)

The Court: Call the next witness.

Mr. Hokanson: Mr. Woodman.

HAROLD L. WOODMAN

called as a witness by and on behalf of libelants, having been first duly sworn, was examined and testified as follows:

Direct Examination

By Mr. Hokanson:

Q. State your name, please.

A. Harold L. Woodman.

Q. Where do you live?

A. At Winslow, Washington. [1284]

Q. What is your occupation?

A. I am a machinist foreman with the Commercial Ship Repair.

Q. How long have you worked for Commercial Ship Repair in that capacity?

A. Since they bought the yard, I guess about 15 or 16 months.

Q. What previous experience had you had as a machinist prior to that time?

A. I worked at the machinist trade since about 1917. In 1937 I was made shop foreman for the Winslow Marine Railway & Shipbuilding Company and continued in that capacity until Commercial Ship Repair bought the yard.

Q. Have you ever been to sea?

A. Yes, sir.

(Testimony of Harold L. Woodman.)

Q. Do you hold any licenses?

A. I hold a steam engineer's license, first assistant, ocean.

Q. Were you working as machinist foreman at the Winslow yard during the months of August, September and October, 1948? A. Yes, I was.

Q. Do you recall the Motor Tanker *Urania*?

A. Yes.

Q. Did you know Mr. Harry Williams? [1285]

A. Yes, I did.

Q. Did you know the chief engineer of the vessel? A. Yes.

Q. Did you ever have conversations with him?

A. Yes, I have.

Q. Were you able to converse with him at all?

A. Fairly well, not too well. He had trouble understanding me and I had some trouble understanding him, but we got along together with the work quite well.

The Court: Who was that?

The Witness: The chief engineer of the *Urania*.

Q. Did you ever discuss with Mr. Harry Williams the main engine work on the *Urania*?

A. Yes, I discussed some phases of it with him.

Q. With respect to what?

A. With respect to the work that the engineers were doing, some of it was. Most of it was pertaining to the work that the engineer requested we help them out on.

Q. Did you have any understanding with Mr.

(Testimony of Harold L. Woodman.)

Williams concerning what you should do on the main engine?

A. Yes, I would say we had an understanding to the extent that he wanted—he asked if we could furnish him mechanics that would work with the engineer force of the ship.

Q. What was the engineer force of the ship, if you know?

A. Do you mean who did it consist? [1286]

Q. Yes.

A. There was a chief and I think three assistant engineers, and I don't know whether there was any more than that. I think there were more than that, too, but I didn't know them or pay any attention to them.

Q. Pursuant to Mr. Williams' discussions with you, did you ever furnish any machinists to the chief engineer? A. Yes.

Q. Do you know what they did?

A. No, not what they did. I know that they worked with the assistant engineers, at their direction. I had no direct supervision over them other than to furnish them to the engineering force of the ship.

Q. Do you remember when the *Urania* first came into the yard?

A. I can remember when—I don't remember the date or anything like that. I do recall when she came in, though.

(Testimony of Harold L. Woodman.)

Q. What was the state of the main engine when she came in, if you know?

A. I didn't pay any particular attention. I believe there were some parts of it dismantled when she came in.

Q. Do you know who was aboard her at that time?

A. There was the engineers, some of them—I don't know how many of them were aboard at that time. There were also a couple of mechanics from Seattle that came along [1287] with the ship.

Q. In the main engineroom? A. Yes.

Q. How long did they work there, if you know?

A. No, I don't know. I presume it was possibly a week.

Q. Were they employees of Commercial Ship Repair? A. No, they were not.

Q. Do you know where they were from?

A. I found out later that they were employees of Foss Tug & Barge Company.

Q. Did you have anything to do with the installation of the liners on the cylinders of the main engine? A. Yes.

Q. What was that?

A. We installed the liners in the cylinders up in the company's warehouse where we had provisions to handle them—that is, our machinists did that.

Q. Would you state what liners are?

A. A liner is—I would say is an inner lining,

(Testimony of Harold L. Woodman.)

a portable lining of a cylinder, generally installed to facilitate replacement readily. The piston runs in the liner, the liner is installed inside of the cylinder casting itself.

Q. So that it is the same shape as the cylinder, cylindrical in shape?

A. Cylindrical in shape, and in line with the engine proper.

Q. What is it made of? A. Cast iron.

Q. Do you know who put the cylinders on the main engine?

A. Yes, the shipyard riggers took the cylinders from the warehouse and lowered them into the engine room and placed them on the engine with the shipyard chain blocks and gear necessary to do it with.

Q. With respect to these liners, were they new?

A. I can't say that they were new. I don't know whether they were or not. I don't think so.

Q. Were the liners in the cylinders when the cylinders were lowered on the engine?

A. Yes, they were.

Q. Were you present when that was done, when the cylinders were placed on the engine?

A. Yes, I was down there and saw one or two of them. I was on board the ship and happened to watch the proceedings.

Q. Was anything further done with respect to the cylinders and liners beyond what you have already stated?

(Testimony of Harold L. Woodman.)

A. Not by the shop or the shipyard crew.

Q. Did you or your crew have anything further to do [1289] with it when you were present?

A. No.

Q. Do you know anything about some difficulties that were experienced with the lubricating oil terminal on the No. 2 cylinder? A. Yes, I do.

Q. Would you state what that is?

A. No. 2 cylinder, when the ship's force——after they had bolted them down and were in the process of assembling the engine, they wanted to put these lube oil terminals through the cylinder and into the cylinder liner itself.

Q. When you say "they", whom do you mean?

A. The ship's force. They found that the holes in the liner and the cylinder were slightly out of line so that the terminal could not be screwed in the way——in the position they were in.

Mr. Howard: I don't like to interrupt, but did you say "they found" or "I found"?

The Court: They found, the ship's force.

The Witness: They, that is right. The chief engineer came up to the machine shop and asked me if I would walk down to the ship with him and see what could be done to enable these tubes to be put in the engine properly, and I told him what could be done, and he asked me to send a man down to do it. [1290]

Q. What was done, if you know?

A. We filed out the side of the hole on the

(Testimony of Harold L. Woodman.)

cylinder casting possibly one-sixteenth of an inch so that the terminal pipe would screw into the threads of the liner properly.

Q. Who was present when that was done?

A. The mechanic that worked on it and the engineer force. The chief was there and watched the proceedings part of the time.

Q. Were you there?

A. I was there when they started it, yes.

Q. Was anything further done with respect to terminals, so far as you know, by any of your machinists?

A. No. My machinist, the machinist I sent down there, tried the terminal into the hole. It fit properly and he left it right there.

Mr. Howard: If the Court please, I object to that answer on the basis of what his machinist did, because the witness has just got through saying he was only there when the work started.

The Court: Were you there when it was finished?

The Witness: No.

The Court: The objection is sustained.

The Witness: If I might add, I did see the job after it was completed, but I wasn't there when the [1291] job was in the process of being done.

Mr. Howard: I don't think that is responsive to any question.

The Court: It is stricken.

Q. Did you see the filing on the cylinder jacket

(Testimony of Harold L. Woodman.)

after the job was completed? A. Yes, I did.

Q. And that filing-out process was on the outside of the cylinder, as I understand it?

A. Yes.

Q. Did you ever have anything to do with the telemotor system on the *Urania*?

A. Yes, I did.

Q. Can you tell us what that was?

The Court: What does that do? What function does the telemotor perform?

The Witness: It controls the steering engine. We followed a job order issued by the yard on examination of the telemotor system and steering engine.

The Court: What do you mean, "we followed a job order"?

The Witness: I don't know what the job order—I can't recall.

The Court: What was the nature of your activities if you followed the job order? What would be the nature [1292] of your activities, that you read the job order and went home? If it means that or something else, will you say what it means and the nature of the meaning?

The Witness: We were to examine mechanically the steering engine and its parts.

The Court: May I ask you this: does it or does it not mean that you did or undertook to do what the job order called for?

The Witness: That is correct, sir.

(Testimony of Harold L. Woodman.)

The Court: All right. Proceed.

Q. Do you recall what that was, Mr. Woodman?

A. Yes. We checked the steering engine to see that it was in proper working condition, the steering engine and the telemotor also. We had to work on the telemotor to see that the steering engine functioned properly.

Q. What did you find?

A. We found out that it worked properly.

Q. Did you go on the sea trial of the vessel on October 6? A. I did not.

The Court: May I ask you, did you find that out without doing any work on it or did you find it out after you did work on it?

The Witness: We did work on it sir, did some work on it. [1293]

The Court: I do not know anything about what you are talking about except what you tell me.

The Witness: I realize that, sir. We did examine the steering engine very carefully, tried out the hand steering gear and saw that there was no mechanical defects apparent in the engine itself; tried the telemotor out for the steering engine controls and found them working properly, left them working properly, I should say.

The Court: I have not heard of any work being described. Do you know how to get the witness to talk about that?

Mr. Hokanson: I will, Your Honor.

(Testimony of Harold L. Woodman.)

Q. What did you do when you first tested this system out?

A. We checked the oil in the telemotor system, added a little to it and worked the system from there. It is rather hard for me to describe just what we did.

Q. What is the telemotor, Mr. Woodman?

A. The telemotor is a part of the steering equipment aboard the ship that actuates the steering engine itself.

Q. On what principle does it work?

A. On the hydraulic system.

Q. What happens when you turn the wheel in the wheelhouse on the telemotor? [1294]

A. You turn the wheel in the wheelhouse—it is directly connected to a couple of pistons.

Q. What do they do?

A. Those pistons in turn are connected by tubing to pistons at the steering engine station.

Q. What is in the tubing? A. Oil.

Q. When you actuate those pistons from the steering wheel, what happens then?

A. It actuates the electrical controls on the steering engine itself.

Q. Where is that located?

A. In the steering engineroom.

Q. What does that do?

A. It starts the steering engine motor and turns the rudder one way or the other, whichever way, depending which way you turn the wheel.

(Testimony of Harold L. Woodman.)

Q. Can you describe very briefly what you did to test out this system to see whether it was in proper working order?

A. Will you state that question again, please?

(Last question read by reporter.)

A. To test out the system, we tried the steering gear in its entirety for a period of probably two or three hours, moving the rudder from port to starboard, back and forth [1295] and amidships, and found out that it was working properly that way.

Q. Did you check the oil in the system?

A. Yes, we did.

Q. Did you find the system to be in proper working order? A. Yes.

The Court: Was the workability of the system any different after you got through checking it from what it was before you started checking it, so far as your adding or subtracting anything to the parts or contents of the parts was concerned?

The Witness: We couldn't run the steering engine, sir, until we had tried out all the telemotor system, the hydraulic system, as we call it, with the oil in it and——

The Court: So it was not working when you started it, is that right? It would not work when you started it?

The Witness: No, sir, it wouldn't.

The Court: You did something to it to make it work?

The Witness: Yes, we checked it over.

(Testimony of Harold L. Woodman.)

The Court: What did you do to make it work that was not already done before you started?

The Witness: To start with, the electricians did some work checking the wiring on the motor.

The Court: Did they put in any new wires?

The Witness: No, not that I know of. I believe they did hook up some wires that were disconnected on one phase of it.

Mr. Hokanson: We have another witness on that phase of it, Your Honor.

The Witness: But our work was principally concerned with lubricating the system to see that the bearings were cleaned, the gears were cleaned and that——

The Court: The Court does not feel that the Court understands that there has been a thing done to explain what it was that accomplished a change in the condition of this telemotor.

I understood him to answer a few moments ago that the thing would not work when he commenced, and he worked with it and made it operate and function. What was the specific thing and nature of the work done which produced that result? That is what I would like to know, if you can get it out of the witness, briefly.

Q. What did you have to do to make it run?

A. We had to put oil in the telemotor lines. We had to see that the telemotor would actuate by turning the steering wheel. We had to get power on the motor; we had to oil up the machinery; we

(Testimony of Harold L. Woodman.)

had to take out the stop. There [1297] is a stop on the rudder quadrant to keep it from swinging back and forth if the engine is not hooked up or if the boat is being towed. We removed that and oiled up the bearings, examined them so they were in proper working order. When we got the power on the motor, we tried the steering gear out electrically and found it in working order.

Q. In other words, this system had not been operating for some time before it came into your control? A. That is right.

Mr. Howard: I object to that as something that is obviously beyond his knowledge. He can't say whether it had been operating or not.

The Court: Read the question.

(Last question read by reporter.)

Mr. Howard: I renew my objection.

Mr. Hokanson: I will rephrase the question.

Q. Could you tell from the condition of the tele-motor when you first saw it whether it had been in operating condition recently?

A. I could tell that the telemotor and steering engine had not been operating for some time due to being no power on the ship.

Q. In the course of your opening up this system to get it in working order, was it necessary to effect any repairs to any parts of it? A. No.

Q. When you finished the job, was it in operating order? A. Yes, it was.

(Testimony of Harold L. Woodman.)

The Court: Ask him once more what the nature of his work was. What did he do to the thing?

Q. Would you explain to the Court once more just exactly what you did to get the system operating when it had been inoperative prior to the time the ship came in the yard?

A. The first thing we did was to try out the hand steering gear, which is done in the steering engine itself. That is controlled by hand with a steering wheel aft of the steering engine. We found out that that worked and that the rudder turned freely on the ship.

The Court: Then you did not do anything to that? Why do you mention it if you did not do anything to that to change its condition?

The Witness: We didn't. It was only to find out——

Mr. Hokanson: Your Honor, may I explain this?

The Court: The witness is on the stand.

Mr. Hokanson: There is an exhibit in the record, Your Honor, covering the particular item of the main contract covering the telemotor. I will ask that that [1299] exhibit, Libelants' Exhibit 1, be produced and ask the witness to read that for the Court's information.

Q. Examine that Exhibit No. 1 and tell me what you find under the heading "steering engine".

A. "Test out steering engine and steering gear and report condition found. Free up and lubricate

(Testimony of Harold L. Woodman.)

mechanical equipment found in good order. Remove locking device from rudder before testing.”

Q. What does that mean?

A. That means to try out the steering engine to see if it will run.

Q. Did you do that? A. I did.

Q. Did it run? A. Yes, it did.

The Court: Did you do anything else to it? Did you add anything to it or subtract anything from it?

The Witness: We put in a little oil in the telemotor system.

The Court: Was it lubricating oil?

The Witness: It was telemotor oil, a special oil manufactured for that purpose.

The Court: As I understand it, it was not put in for the purpose of lubricating and freeing the action and preventing wearing of the parts, but it was put in [1300] for the purpose of producing motion in the parts, is that right?

The Witness: That is right, Your Honor.

The Court: Was it an approved grade and quality and kind of oil?

The Witness: It was given to us by the chief engineer of the ship to use in the telemotor.

The Court: Did he ask you to use that kind?

The Witness: Yes, he did, sir.

Q. Did you have anything to do with the Clayton boiler on that ship?

(Testimony of Harold L. Woodman.)

A. Yes, we had the pump from the Clayton boiler up in the machine shop.

Q. What is the pump?

A. The pump on the Clayton boiler is a series of pumps. One is a fresh water pump, pumps the water into the boiler. I think there are four pumps, four independent pumps in the unit. I don't know exactly what all the pumps do on that or their function.

Q. What did you do to that pump?

A. We had it up in the shop, dismantled it, disassembled it, and we renewed two or three pieces in it. I believe we renewed the crankshaft, or camshaft, as they called it. The chief engineer requested we put in a spare he had aboard the ship, and I believe there were a couple of [1301] bearings that he had aboard the ship that we put in along with the camshaft.

Q. Was that done under your supervision?

A. Yes, it was.

Q. Does the Clayton boiler have anything to do with the main engine? A. No, sir.

Q. Who reassembled the pump after these parts were put in?

A. Machinists in the shop under my direction.

Q. Did you see it done?

A. I saw part of it done.

Q. What is your practice with respect to re-assembling parts of a pump or any other item of machinery after it has been taken apart?

(Testimony of Harold L. Woodman.)

A. It is to reassemble it in its proper order.

Q. How do you do that?

A. Ordinarily, check the machinery and if there are identification marks on the parts, you take note of them. If there are not, you put identification marks of your own so they will go back in their proper places.

Q. Do you remember anything in particular about the pump of this Clayton boiler?

Mr. Howard: That is a broad question.

Mr. Hokanson: I will withdraw the question.

Q. Do you know whether that practice was followed with respect to the reassembly of the Clayton boiler pump? A. Yes, it was.

Q. Did you ever see that pump in operation aboard the ship after you had reassembled it in the shop?

A. I don't believe I did, no, sir.

The Court: At this time we will take a ten-minute recess.

(Recess.)

Q. Did you ever discuss the telemotor system at the Winslow yard or aboard the Urania with any officers of that vessel? A. Yes, I did.

Q. When?

A. Sometime before the ship left; I imagine possibly a week before the boat left.

Q. With whom did you discuss it?

A. With the captain, the chief engineer, and the chief mate.

(Testimony of Harold L. Woodman.)

Q. What was the nature of the discussion?

A. The captain asked me if I would try to teach him or show him how the steering gear worked, how it operated. I was down there on a Saturday forenoon for about, I would say two hours or two and a half hours and showed him how to use the telemotor steering, how to transfer from the [1303] telemotor steering to the manual steering and how to engage the hand steering gear down in the steering engineroom and how to disengage it. I worked the systems, that is the telemotor system and the manual control system, for him, back and forth to switch from one to the other, I would say 15 or 20 times, and I had them do it after I did it, both of them, the mate especially.

Q. When you say "them" do you refer to the mate and the captain?

A. The mate and the captain. The chief engineer wasn't interested in the steering up in the pilot house. He would watch the operation of the steering quadrant, rudder stock, and so on down in the steering engineroom.

Mr. Hokanson: You may examine.

Cross-Examination

By Mr. Howard:

Q. You could make yourself understood all right to the chief engineer, couldn't you?

A. Yes, fairly well.

Q. And he could talk to you all right, couldn't he?

(Testimony of Harold L. Woodman.)

A. Yes, we got along fairly well.

Q. Referring to item 1 on Libelants' Exhibit 4, on the first page, "furnish labor and material to pull main engine cylinder liners," did you furnish that labor and [1304] material?

A. Yes, we did.

Q. Going about one-third of the way down the page, "Install new liners in 5 cylinders," did you furnish that work? A. Yes, I did.

Q. And the labor that went into it?

A. Yes.

Q. The shipyard furnished that?

A. That is right.

Q. Just about in the center of the page, an item, "Install 6 cylinders on engine."

Q. Did you furnish the labor and material for that? A. Yes.

Q. The labor for that?

A. The labor for fitting the cylinders on the engine.

Q. The item is "Install 6 cylinders on engine."

A. That is right, sir.

Q. As to this terminal leading into No. 2 cylinder, did you see what kind of a gasket was put in there? A. No, I didn't.

Q. Referring now to the telemotor system, did you make any adjustments at all in the motor in the steering engine room? [1305]

A. No, I didn't.

(Testimony of Harold L. Woodman.)

Q. Did you make any repairs to the motor in the steering engineroom?

A. I did not, no, sir.

Q. Did you do the work on that yourself?

A. No, I didn't.

Q. Someone under your direction did the work?

A. If there was any electrical work done, it was under the jurisdiction of the electric shop, not my charge.

Mr. Howard: I have no further questions.

Redirect Examination

By Mr. Hokanson:

Q. What was involved in installing the cylinders on the engine?

Mr. Howard: That is objected to as improper redirect examination.

Mr. Hokanson: I think it is proper, Your Honor.

The Court: It is overruled.

A. The yard lowered the cylinders down into the engineroom through the engineroom skylight and set them on the engine case itself; just set the No. 1 cylinder in its position, No. 2, No. 3, the six of them in position and dropped them down over the studs. We left them there and the ship's force took over from there. They bolted the [1306] cylinders to the frame of the engine. The ship's force did that.

Mr. Howard: I move to strike the last part of the answer as not responsive to the question.

The Court: It is granted.

(Testimony of Harold L. Woodman.)

Q. You had to use riggers to put those cylinders down, is that it? A. That is right.

Q. And the ship didn't have that equipment?

Mr. Howard: Objected to as leading.

The Court: Sustained.

Q. Did you have anything to do with installing the oil leads into the cylinders and the liners?

A. I did not.

Q. Did anyone under your supervision have anything to do with it?

A. No, they did not.

Mr. Hokanson: That is all.

Mr. Howard: That is all.

(Witness excused.)

The Court: Call the next witness.

Mr. Hokanson: Mr. Gilmore. [1307]

J. D. GILMORE

called as a witness by and on behalf of libelants, having been first duly sworn, was examined and testified as follows:

Direct Examination

By Mr. Hokanson:

Q. State your name, please.

A. J. D. Gilmore.

Q. Your residence?

A. 4515 Woodlawn Avenue, Seattle.

Q. Your occupation?

A. Marine surveyor.

(Testimony of J. D. Gilmore.)

Q. What is your experience as a surveyor?

Mr. Howard: We will concede that Mr. Gilmore is a qualified marine surveyor in the Pacific Northwest area.

Q. What licenses do you hold?

A. Chief engineer, United States Coast Guard, any tonnage, any ocean; British, second class engineer; certified professional engineer, marine engineering and surveying, from the State of Washington.

Q. What company are you associated with?

A. Alexander Gow, Inc.

Q. Did you attend the vessel *Urania* at Winslow in the [1308] month of October for Mr. Black and Mr. Featherstone? A. I did.

Q. Did you ever see the *Urania* prior to the time you made that visit? A. I did.

Q. Do you know anything from your own knowledge concerning the condition of the vessel at the time she came into that yard?

A. Not at the time she came into the yard, but subsequently.

Q. What was that condition?

A. I saw a number of cylinders in the stockroom that were cracked from top to bottom, and they told me that they had been removed from the main engine of the *Urania* on account of freezing and cracking.

Mr. Howard: I object to that, as to what they told him. He hasn't identified them. It is purely a hearsay statement.

(Testimony of J. D. Gilmore.)

The Court: It will have to be sustained.

Q. Do you know from any other personal observation what the condition of that vessel was prior to her conversion?

A. I made no survey of her prior to the conversion; however, I was aboard the vessel in company with Mr. Williams for other purposes later on.

Q. Did Mr. Williams ever say anything to you concerning the history of the vessel?

A. I can't recall.

Mr. Howard: I would like to establish that this witness is referring to the same Mr. Williams that we have in mind.

The Witness: Mr. Harry Williams, who told me that he represented the owners for certain purposes, showed me a telegram signed by the owners.

Q. Did you ever discuss with Mr. Williams the history of that vessel?

A. I can't recall that. I think in a casual conversation I asked him what happened, and as far as I can recall, he says, "She froze in Alaska," but I was not interested in the machinery.

Q. You have been in court this afternoon since 1:30, have you? A. Yes, I have.

Q. Did you hear the testimony of Mr. Oakland concerning the test that he conducted for the purpose of cleaning and hydrostatically testing the coolers and heat exchangers on that ship?

A. I did.

Q. How long have you known Mr. Oakland?

(Testimony of J. D. Gilmore.)

A. Somewhere along in 1923 or 1924, I would imagine, [1310] when he was at Winslow and we had vessels over there under repair.

Q. Do you know anything about Mr. Oakland's ability as a pipe shop foreman?

A. I have always found him—he gave me most satisfactory work.

Q. Having listened to his testimony concerning how he conducted the cleaning and testing of these heat exchangers and coolers, what is your opinion concerning the method he used?

A. I think it was good, standard——

Mr. Howard: I object to the form of the question in that there has not been a sufficient basis laid for the question to be propounded to this witness as to his opinion of the manner in which this work has been done.

The Court: Do you mean there might be some uncertainty as to what part of the testimony he considered?

Mr. Howard: That is correct.

The Court: I think you should state the part of the testimony you wish to call his attention to. If he heard it all, he may be emphasizing something that is not material.

Mr. Hokanson: In order to shorten this, Your Honor, I will ask the witness the question in this form: [1311]

Q. Did you hear what Mr. Oakland had to say about the method he used in cleaning and testing

(Testimony of J. D. Gilmore.)

the heat exchangers and the cooler of the *Urania*?

A. I did.

Q. What is your opinion concerning the method used?

Mr. Howard: I renew my objection. This witness has not yet testified that he is familiar with this type of heat exchangers or the requirement for testing them.

Mr. Hokanson: You have already conceded his qualifications as a surveyor.

Mr. Howard: As a surveyor, but not that he has knowledge of this type of heat exchanger or lubricating cooler.

The Court: The objection is sustained.

Q. Are you acquainted with a Harrison type radiator or heat exchanger? A. I am.

Q. Is your familiarity with that type of heat exchanger such that you understand the method of cooling involved in that system? A. It is.

Q. On that basis, are you able to state an opinion as to the method used by Mr. Oakland in cleaning and testing the coolers and heat exchangers?

The Court: As used by him according to what he [1312] stated.

Q. According to what he stated.

Mr. Howard: This witness has been asked whether he is familiar with the method of cooling, and I submit to Your Honor that that is not the proposition we are involved with here. It is the method of cleaning.

(Testimony of J. D. Gilmore.)

The Court: I sustain the objection. I understood that witness referred to as testifying to his method of cleaning the exchangers.

Q. Have you ever had a Harrison heat exchanger or cooler cleaned?

A. I can't recall that I ever had a Harrison heat exchanger cleaned. I have had many other heat exchangers of similar construction.

Mr. Howard: I move to strike the last part of the answer as not responsive.

The Court: Sustained. Just answer the question.

Q. Do you know anything about the Jamlen solution which is used in cleaning pressure vessels?

A. I do.

Q. What is its reputation for effectiveness in doing that kind of work? A. Excellent.

Q. Do you know what the American Bureau standards are with respect to pressure testing pressure vessels? [1313]

Mr. Howard: I object to that question as not being—I think counsel may have misstated himself.

The Court: It seems to me you misstated yourself or insufficiently stated the condition.

Q. Do you know what the American Bureau of Shipping requirements are with respect to the amount of pressure to be put on coolers or heat exchangers in testing?

Mr. Howard: I object to that question in that it deals with coolers and heat exchangers in general.

(Testimony of J. D. Gilmore.)

We have before us a particular type of heat exchanger or cooler, and I think the question should be limited to that type.

The Court: The objection is sustained.

Mr. Hokanson: I will withdraw the question.

Q. Mr. Gilmore, you know——

The Court: Ask him if he does; do not say that he does.

Q. Do you know the characteristics, the construction of the Harrison heat exchanger?

A. I do.

Q. Assuming that a Harrison cooler or heat exchanger has a rated operating pressure on the salt water side of 7 pounds; and assume that it has a rated operating pressure of 18 pounds on the lubricating oil side: based on those facts and upon the statement of Mr. Oakland concerning the [1314] method he used in cleaning and testing the Harrison coolers and heat exchangers, what is your opinion with respect to the method used?

Mr. Howard: I object to that question on the ground it does not contain sufficient assumptions from the evidence that is now in the record in this case. I am particularly referring to the fact that testimony is in this record to the effect that there is a stamp on this particular cooler aboard the Tanker Urania that has a test pressure of 300 pounds per square inch on the salt water side. That testimony is undisputed in the record at this time, if the Court please.

(Testimony of J. D. Gilmore.)

Mr. Hokanson: There is in the record the operating manual issued by The Union Diesel Engine Company. Mr. Newell, the vice president of that company, pointed out in the manual, which is in evidence, the place where it sets forth the operating pressures. That is what we are concerned with here, the operating pressure of this particular radiator, and I submit that all of the basic assumptions are present here necessary to get the answer from the witness. He knows the radiator; he knows that the pressure——

The Court: You can state what you contend is further in the evidence. I believe that this other is a fact which the evidence does disclose, or at least I have [1315] heard referred to before as a fact, and the objection is sustained with leave to add such other elements as the evidence discloses.

Q. Assume further that the plate on this exchanger gives a pressure test of 300 pounds; and assume further that the maximum working pressure is 75 pounds; and assume further that the chief engineer, at whose request the cooler was cleaned, asked for a test of 50 pounds water pressure on the salt water side: do you have an opinion as to the propriety of the method used in this case?

The Court: As stated by whom?

Q. As stated by Mr. Oakland.

A. I think it was a good, fair pressure test.

Q. Is it good marine practice to test them in that fashion? A. It is.

(Testimony of J. D. Gilmore.)

Q. Was it cleaned properly if Mr. Oakland's testimony is correct?

A. That is the standard practice of cleaning any heat exchanger, not only a lubricating oil cooler, but a fuel oil heater.

Q. You state that you are acquainted with a Harrison radiator or heat exchanger. Do you know whether it is used for more than one purpose, or can be used for more than one purpose on board a vessel? [1316]

A. It can.

Q. What then does the test plate mean with respect to test pressures?

A. That would mean the maximum pressure that the heat exchanger was subjected to, and it would be safe for any working pressure up to that pressure.

Q. Assume that the operating pressure of the particular coolers and heat exchangers in question is 7 pounds on the salt water side and 18 pounds on the lube oil side: what is your opinion as to the amount of pressure to which the exchangers should be subjected for use under those conditions?

A. I would say one and a half times the 18 pounds, that is the higher pressure that is subjected to.

Q. Assume that the heat exchangers and cooler in this case have been cleaned and tested in accordance with Mr. Oakland's testimony; and assume that after the heat exchangers and cooler were so cleaned and tested they were put on the engine of the

Urania; and that thereafter the vessel travelled (Testimony of J. D. Gilmore.)

roughly 2400 miles and that during the voyage the operating pressures of 18 pounds on the lube oil side and 7 pounds on the salt water side of the exchangers and cooler were maintained and that the vessel operated in a satisfactory condition for a period of ten days and that thereupon the helical timing gears of the vessel became galled and that the lubricating oil had been changed the day before the first [1317] galling of these gears; and that after the gears were galled the vessel put into port, the oil was again changed, new timing gears installed, new oil put in the system; and that the vessel then put out to sea and was under way for a period of 36 hours when the gears went out again, the timing gears; and that thereafter the vessel returned to Los Angeles under tow and arrived there on or about November 11 when the heat exchangers and the cooler in question here were removed from the vessel, placed in a vat of caustic solution at a temperature of 212° Fahrenheit, boiled for four hours and then subjected to pressure tests under water with an air pressure of 160 to 200 pounds which then disclosed certain leaks around the seams of the cooler and not in the tubes themselves as evidenced by air bubbles the size of a pin point or the lead in a pencil, but that such leaks were not visible to the naked eye without such a test: in your opinion, could such leaks allow infiltra-

(Testimony of J. D. Gilmore.)

tion of salt water into the lubricating oil of that ship in any amount at all?

A. I do not think so.

Q. Assume further that during the voyage an auxiliary pump was used on November 4 for a period of approximately six hours so that the water pressure on the salt water side of the cooler was increased to 100 pounds: could that, in your opinion, cause infiltration of salt water in the lube [1318] oil through leaks of the size described?

Mr. Howard: I will have to object to that question on the basis that there is no testimony in the record that the water pump that was placed into the system on November 4 was carrying a pressure of 100 pounds. There is no testimony, if the Court please, in the record that that amount of pressure was being delivered through the system at this time.

Mr. Hokanson: Your Honor, I cannot assure the Court that there will be any proof that such a pressure was ever actually realized. I can assure the Court that there will be evidence introduced that an auxiliary pump was put into operation capable of delivering a pressure of 100 pounds.

The Court: Then have the question so conditioned.

Q. In substitution of the assumption made that the pump used actually was delivering 100 pounds, assume instead that the pump was put into operation, an auxiliary fire pump, which was capable

(Testimony of J. D. Gilmore.)

of delivering a pressure of 100 pounds: under those circumstances, in your opinion, would it be possible to cause infiltration of salt water into the lubricating oil through leaks of the size heretofore described?

A. Not if the description of where the leaks were found is correct. I may elaborate that a little bit. From what I have heard, the leaks were found——

Mr. Howard: Just a minute.

The Court: Heard where?

The Witness: From the attorney.

Mr. Howard: I object to that.

The Court: It is sustained.

Mr. Hokanson: I believe, your Honor, there is contained in this assumption the fact that the leaks were found in the seams and not in the tubes themselves.

The Court: You would have to develop that that is the fact.

Mr. Hokanson: It is in the record, your Honor.

The Court: You will have to develop that that is the fact this witness is talking about when he adds this further elaboration.

Q. Did you hear the assumptions made in my first hypothetical question? A. I did.

Q. Assuming that the leaks were found around the seams in the soldered part where the core joins the casing—— A. Yes.

Q. ——do you have something further to observe with respect to the possibility of getting water into the oil?

(Testimony of J. D. Gilmore.)

A. When the head is put on the oil ends of that heat exchanger, that particular joint is covered by a gasket so that the gasket would seal any leakage that happened to be [1320] in that seam when that heat exchanger was assembled and in operation.

Q. Assume that the facts heretofore given you in the first hypothetical question; and assume that when this vessel after two breakdowns, occurring respectively on October 26 and on November 5, 1948, in both cases of which the timing gears were galled, both upper and lower; assume further that on the first breakdown, the upper timing gears were only normally worn, the lower timing gears were worn out, irregularly and erratically worn, and on the second breakdown both upper and lower gears were worn out in an erratic fashion; and assume that after the vessel returned to Los Angeles on November 11 the engine was opened up and no damage was found to any of the main bearings or the camshaft bearings lubricated by the same oil system furnishing lubrication to the timing gears in question: could such galling of the timing gears be caused in your opinion by contaminated lube oil?

A. No.

Q. Are you acquainted with the methods of testing lubricating oil for marine diesel engines to determine the foreign matter content thereof?

A. I am.

Q. What is the method used?

A. It is sent to a laboratory and a sample of oil

(Testimony of J. D. Gilmore.)

is [1321] centrifuged to determine the amount of water and bottom sediment, and then that moisture and bottom sediment is analyzed to determine what it is, whether the water is salt or fresh and what the contents of the sediment are, whether they are sand, rust, metal shavings, or anything else.

Q. Where should the sample of oil be taken from in the marine diesel engine to get a true sample of the oil which circulates throughout the engine for lubricating purposes?

A. The oiling system should be started up and the oil circulated in the same manner that it is when the engine is operating, and then a sample should be drawn from the pipeline. Generally it should be a small sample over some period of time, so you will get a pretty fair idea of the amount of foreign matter that happens to be in the lubricating oil. If you do any other method, you are liable to get a pocket of water and get a very high percentage of water; you are liable to run into perfectly good oil and get a bad sample, but what you are interested in is the lubricating oil really going into the engine, and if you draw your sample from that you get a true picture of the condition of the oil.

Q. Would you have any opinion as to the representativeness of a sample of oil taken up from low spots in the bed of an engine? [1322]

A. That would not be a true sample. It is very, very possible that you would get an excessive amount of moisture because the water would go to the

(Testimony of J. D. Gilmore.)

lowest part and the oil would float on the top of it.

Q. If you know, can it be established what the nature of the foreign material in lubricating oil is by tasting it? A. No.

Q. Assuming the facts I have heretofore given you concerning the history of this vessel and its breakdowns and based upon your knowledge of marine diesel engines: what possible cause, in your opinion, could there be for the galling of timing gears?

A. I would look for two things: one of them was worn bearings in the shaft of the timing gears so that the helical gears could get out of their true position and there would be pinching action between the teeth to cause excessive wear. That would have shown up, possibly, if the gears had been carefully examined.

The other thing that I would look for would be an excessive strain on the shaft and pumps and other things that are driven by the timing gears, which put more strain on them than what they can carry, and they wear.

Q. Is it possible to develop such stresses or extra strains during the operation of a vessel at sea?

A. It all depends upon what is driven by the timing [1323] years. There are bearings on there that no doubt can be set too tight and possibly will be some pumps where the packing glands can be pulled up so tight as to put an excessive strain on

(Testimony of J. D. Gilmore.)

the rod. It could be some of your cams are not operating just exactly right, and put a strain on the camshaft and transfer to the timing gears which is driven by the gear on the camshaft.

The Court: I would like for counsel on both sides to know that it would be informative to the Court if upon proper questions it could be ascertained whether the circumstance of the lapse of time between change of lubricating oil and occurrence of damage throws any light upon the cause of the gear damage.

Q. Reverting back to certain assumptions, assume that the vessel leaves Puget Sound October 15 and according to its log the vessel runs in proper operating condition for a period of ten days at, let's say, an average speed of 280 revolutions; assume further that on the 10th day the lubricating oil is changed; assume further that the following day the timing gears are galled; assume further that the pressure of the coolers, fresh water and oil, on the salt water side is maintained at 7 pounds, and the oil side in the oil cooler at 18 pounds; and assume further that leaks are discovered in the coolers sometime later when they are removed from the vessel: in your opinion, could timing gear [1324] failure on the day following the change of oil have been caused by infiltration of sea water into the oil as a result of leaks in the coolers? A. No.

Q. Assume that——

Mr. Howard: Can we have the witness explain this answer?

(Testimony of J. D. Gilmore.)

The Court: I would like to hear him explain it, and in connection with the explanation, I would like him to discuss the alternative causes, if there are any disclosed by the question.

Q. Would you explain your answer?

A. It has been stated that the lubricating oil pressure was 18 pounds, and that the water pressure on the other side of the cooler was 7 pounds. If the cooler had leaked, the oil at 18 pounds would have flowed into the salt water and overboard; the salt water wouldn't have flowed from 7 pounds against 18 pounds into the engine.

Second, the cooler when assembled had the portions found leaking later on covered by a gasket, so therefore they couldn't leak. The change of oil, if it was good oil put in there, in my opinion would have nothing whatever to do with the wearing of the gears the next day. It could have been contaminated lubricating oil put in the system, but you wouldn't look for it in the timing gears. You [1325] would look for it in your main bearings, your crankshaft bearings, and particularly in your cross-head bearings where the babbitt would be cut and the pins would be scored.

Q. Assume that a breakdown was suffered off the coast of Mexico on the 26th of October, the vessel put into Manzanillo on the 28th, and two days later a representative from the engine company came down to install new timing gears; and that the representative of the company without ascer-

(Testimony of J. D. Gilmore.)

taining the condition of the oil that had been in the system when he arrived, the same having been cleaned up, and without examination of the log of the vessel, merely replaces the worn timing gears and thereafter the vessel is put to sea with new oil in it and the gears go out again in 36 hours from the time it leaves Manzanillo, what is your opinion concerning the practice adopted by the engineer in installing the new gears?

Mr. Howard: I object to that question on the ground that it does not contain the necessary assumptions which have already been testified to in this record, and on the further ground that counsel is asking this witness' opinion as to the practice, which I submit to your Honor is not a proper subject for this witness to answer without further knowledge of what the service representative did who was sent down there to Manzanillo to do this work that has been contained in the [1326] assumptions; but particularly the assumption does not contain any reference to the fact that additional lubricating oil lines were directed to the vertical timing gear.

The Court: Sustained.

Q. Assume that in addition to the replacement of the gears the representative put a new lubricating oil line in addition to the one already existing leading to the lower vertical timing gears.

Mr. Howard: I object further, if the Court please, that there has been no assumption about the

(Testimony of J. D. Gilmore.)

effecting of the alignment of the various bearings and the shaft as has been testified to heretofore in this record as having been performed at Manzanillo.

The Court: Can you mention the details?

Mr. Howard: Yes, your Honor. Mr. Cross testified that when these gears were taken out and the vertical shaft, he removed the shaft and took it ashore and checked it in the machine shop for alignment. He also testified, as I recall, that he did check the alignment of the other gears and the camshaft on the main engine, and the bearings.

The Court: Any other details that have not been mentioned?

Mr. Hokanson: May I incorporate Mr. [1327] Howard's statement in my assumption and make one additional assumption?

The Court: You may do so.

Q. Assume further that the engineer who put in the gears and put in the additional lubricating oil line had assumed at the time that the previous galling had been caused by a stopped-up lubricating oil line leading to those gears: what is your opinion of the practice adopted by him at Manzanillo?

A. Will you explain to me what his practice was? In your previous question you spoke about installation of an additional lubricating oil line, is that what you have reference to?

Q. That is right. A. Well,——

The Court: Can you answer his question about the practice?

(Testimony of J. D. Gilmore.)

Q. Do you think that the steps taken by the service engineer conformed to proper marine practice? A. No.

Q. Why not?

A. The engine didn't run after he fixed it up, so he couldn't have made it run.

Q. What did he omit, if you have an opinion?

A. I think he omitted checking to find out what was [1328] causing the gears to wear. It appears to me that he assumed that they weren't getting sufficient oil and he put in an additional lubricating line; and it is proved that his assumption was wrong because it only run a short time, as I understand it. There was something else wrong with that engine that the service engineer didn't find.

Mr. Howard: I move to strike that part of the answer as not responsive to the question.

The Court: It may be stricken. The first part of his answer will stand.

Q. Handing you what is known as Exhibit A-20, which purports to be an analysis of the lubricating oil taken from the bed of the engine of the vessel *Urania* on November 11, I will ask you to read the analysis, disregarding the comment which follows the analysis, and state your opinion as to whether oil of that analysis would be adequate to properly lubricate a Diesel engine of the type in the *Urania*, which is a 560 horsepower, six cylinder, four cycle Union Diesel engine?

Mr. Howard: Are you referring to the oil in

(Testimony of J. D. Gilmore.)

the condition it was at the time the sample was made, or are you referring to the oil of the type described as being used on the vessel?

Q. I am referring to the oil sample used in this analysis. [1329]

A. Do you want me to quote——

Q. No, I just want to know whether you think that oil is of sufficient viscosity properly to lubricate a marine diesel engine?

A. Yes; a little high, but it is okay. It is 540 seconds at 100° Fahrenheit, that is all right.

Q. In your opinion, could oil showing that analysis be the cause of helical case-hardened steel timing gears galling within a period of 36 hours?

A. No. Water content a little high, but not too bad, 1.4 per cent.

Q. Assume further that this oil represents oil taken from the base of the engine and not out of the circulating system: What is your opinion as to what the quality of the oil in its circulating condition would be, if you know?

A. I would say this sample is useless from the place it was taken. You have considerable, .46 iron oxide in there. It is probably rust laying in the bottom of the crankcase. You wouldn't get that amount of rust in the circulating system. You wouldn't get the same amount of water in the system when it was circulating, so it seems to me that this sample—that doesn't represent at all the oil that was in use in the system.

(Testimony of J. D. Gilmore.)

Q. Assuming that the foreign matter, including the water, goes to the bottom; would a sample taken from the [1330] oil in circulation be of a better quality or of lower quality than that sample?

A. Better quality.

Q. You have heretofore stated that in your opinion lubricating oil contamination could not have been the cause of the galling of these gears if the other bearings, the main bearings and the crank bearings, were not affected. Would you state why you gave that opinion?

A. The wearing parts of a Diesel engine are lubricated under a forced feed system. The oil is put through the main bearing under pressure, lubricates the bearing and into the hollow crankshaft, runs along to the crank pin, the hole in the crank pin bearing; the oil comes out, lubricates that bearing, goes up through a hole in the connecting rod and lubricates the crosshead bearings at the top, and in an engine with a slipper the oil goes from the crosshead bearings into a hole and lubricates the slipper.

The crosshead bearings and all the other bearings are babbitt lined. The crosshead bearings are furthest from the pump, the one that is subjected to least pressure. In my experience over quite a number of Diesel engines, if you have contaminated lubricating oil with water, if you have a loss of oil pressure, your cross head bearings and crank pin bearings are the first ones that cause you trouble.

(Testimony of J. D. Gilmore.)

Mr. Howard: I object to the last part of that because [1331] there is no assumption in this record there has been any loss of pressure. I move that part of the answer be stricken on that ground.

Mr. Hokanson: That is a part of his answer, your Honor, in giving his explanation for arriving at the conclusion that he gave.

Mr. Howard: It is not responsive to the question because it assumes a fact that is not a matter of record.

The Court: If your answer is based upon that, if there is a low pressure, it will have to be stricken. Is your answer predicated upon that basis?

The Witness: My answer is predicated upon damage to bearings of a Diesel engine through trouble with lubrication, either contamination with water or lack of pressure.

Mr. Howard: I renew my objection, your Honor.

The Court: It will have to be stricken, because Court cannot tell that he meant then or means now to make the answer irrespective of that condition, and that condition I do not recall being presented here.

Q. Irrespective of the assumption of the lack of pressure, do you have anything further to add to your answer?

The Court: I think you had better resubmit the question. You will have to submit a question with the express exclusion of that condition. [1332]

Mr. Hokanson: May I ask that the answer be

(Testimony of J. D. Gilmore.)

read back?

Mr. Howard: I object to that part of the answer which has been stricken being read back.

The Court: Leave out that assumption and do not consider diminishing pressure.

Q. Would your answer be changed, Mr. Gilmore, if you eliminated——

The Court: Ask him to state his answer.

Q. Would you state your answer again, eliminating from it any assumption of a drop in pressure?

A. It is my opinion from experience that where you have difficulty with lubricating oil, we will say through contamination, that the bearings, particularly the crank bearings and crosshead bearings, are the first ones that suffer damage.

Q. Why?

A. The crank pin bearing, particularly, is under quite a heavy pressure per square inch. On top of that, it is revolving quite rapidly and you have a certain wiping action of your crank pin going around on your bearing. The speed is quite a number of feet per minute, and that causes a lack of oil there; and the crank pin bearing is the one that generally gives you the trouble, contamination or other causes through your lubricating oil. [1333]

Q. Have you had any experience in examining logs of seagoing vessels? A. About 32 years.

Q. Do you know what accepted marine practice is with respect to the keeping of an engine log?

(Testimony of J. D. Gilmore.)

A. The main temperatures——

Mr. Howard: That calls for a yes or no answer.

The Court: I think so.

A. Yes.

Q. Handing you the engineroom log, Exhibit A-12, have you ever examined those logs before?

A. I did.

Q. When?

A. It was about ten days ago.

Q. Where?

A. In the third floor office of the clerk of the court.

Q. Would you turn to the log entries commencing on October 16, 1948, and examine them through the period ending November 6, 1948, and state your opinion as to the competency of the engineer making the entries?

Mr. Howard: I object to that question. The competency of the engineer making the entries in the log cannot be determined, I submit to the Court, by an examination of the log itself. You have to see the engineer perform the duty to state what the competency [1334] of the engineer is.

Mr. Hokanson: May I respond?

The Court: You may.

Mr. Hokanson: In a case in 1939 American Maritime Cases, p. 281, Mr. Augustus Hand had this very problem to deal with, and the upshot of his opinion was that logbook entries reflected either credit or discredit upon the testimony of the wit-

(Testimony of J. D. Gilmore.)

nesses relying upon them together with the people who had made the entries in the log.

The Court: It seems to me you should ask him about some characteristic as reflected by the nature and quality of the entries.

Q. Are there any entries there showing the temperatures going in and out of the lubricating oil cooler, covering that period?

A. On October 16, under "lubricating oil", on the 8 p.m. watch, it shows 100° into the cooler and 125° out of the cooler; and the 4 a.m. watch shows 100° into the cooler and 125° out of the cooler.

Q. Do you have any observation to make about that entry?

The Court: As to what?

Q. As to whether it is a correct entry?

Mr. Howard: How could this witness know, if the Court please, whether it is a correct entry or not [1335] if he wasn't aboard the ship at the time?

The Witness: May I state that this——

The Court: The objection is overruled. You may ask him whether he knows anything about the accuracy of that entry, or something to develop knowledge.

Q. Would that be an accurate entry, if you know?

Mr. Howard: I renew my objection. I submit this witness has not testified that he was aboard the ship at the time the entry was made.

The Court: I do not sustain the objection on

(Testimony of J. D. Gilmore.)

that ground. I think the witness should be shown to have some idea as to whether that could be a correct entry.

Q. Could that be a correct entry? A. No.

Q. Why not?

A. I imagine that this being the smooth log made out by the chief engineer, that he has got his figures reversed.

Q. Why should they be reversed?

A. Because if you have a lubricating oil cooler supposed to cool oil, you can't put it in at 100° and take it out at 125°. You are heating it up 25° in place of cooling it.

Q. Would you look at the log entry on the same watch showing temperature of the lubricating oil at that time? Is it given there? [1336]

A. There is no entry.

Mr. Howard: What time were you referring to?

Mr. Hokanson: The same watch as he has referred to on October 16.

Mr. Howard: And you asked him whether there was an entry as to the temperature of the lubricating oil?

Mr. Hokanson: That is right.

The Witness: There is two entries.

Q. What do they show?

A. 100°; 125° out. There is no entry under thrust, there is no entry under main bearing.

Mr. Howard: I move to strike the last part of the answer as not responsive.

(Testimony of J. D. Gilmore.)

The Court: The last part of the answer is stricken.

Q. Would you now examine the entries covering the period stated?

The Court: You are giving quite a lot of time to this. The Court has in mind that it has been testified that this engineer had a limited speaking knowledge of English. My understanding of the testimony was in effect that he may have been able to understand to some extent the English language and converse with persons who spoke English, but that his speaking knowledge of English was limited. In view of that circumstance, it seems to me almost anyone might suppose one unfamiliar with the language might get the figures reversed.

Q. Are there any more entries under the lubricating oil cooler? A. Not under the cooler.

Q. During that period?

A. This logbook finishes up October 28. How much further do you want to go?

Q. Let's stop there. Are there any entries after October 16 on that particular point? A. No.

Q. Is it standard practice to make those entries?

Mr. Howard: Objected to as leading.

The Court: Overruled.

A. Yes, it is very important for the shore officials in checking over condition and performance of an engine from the logbooks that they have all these entries in so they can see what has happened during the voyage.

(Testimony of J. D. Gilmore.)

Q. What does the log show covering the period mentioned in the exhaust temperatures of the cylinders?

A. October 16, there is only two entries, on the 12 midnight and 4 a.m. in the morning, and the run between 550 to 660°. Just checking the cylinders, they run about the same: No. 1, 550; No. 2, 600; No. 3, 650; No. 4, 600; No. 5, 580; No. 6, 540.

Q. Have you examined those exhaust temperatures daily [1338] down through this period?

A. I am doing it now. They are about the same, although on October 19 the No. 1 cylinder dropped down to 510° temperature, for some reason or other.

Mr. Howard: Wasn't it 510 all the way through, Mr. Gilmore?

The Witness: No, it was 550 on October 16.

Q. From the examination of those exhaust temperatures, do you have any opinion as to how the engine was running if those entries are accurate?

A. It seems as though the fuel was not balanced up amongst the six cylinders.

Q. Why not?

A. Well, they should be within 40 or 50°, possibly, with correct adjustment of the fuel valves so that you get the same power from each cylinder. No. 1 here seems to be a little logy; No. 5 is down some, but not too much.

Q. What about the r.p.m. entries covering this period?

(Testimony of J. D. Gilmore.)

Mr. Howard: I object to that question asked the witness, "What about the r.p.m. entries?" I think counsel should be required to ask the witness a specific question about the r.p.m. entries.

Q. Have you studied them? A. I have.

Q. And what do they reflect? [1339]

The Court: As to what?

Q. What do they reflect with respect to the operation of the engine?

A. They reflect that the entries are incorrect because they run exactly 290 revolutions per minute for watch after watch, and then they jump up to 300 for watch after watch after watch; then go back to 290 for watch after watch, 290, 290, 290; and then they drop to 288 and everybody puts down 288 for a full day; then they go back to 290 for a full day; so I think that they are incorrect, very much so.

Q. Why?

A. Because it can't run that regular; it is impossible to run an engine within one revolution for days after days after days. It isn't done; it can't be done; yet can't regulate them that close.

Q. Turning back for a moment, what does it show during this period with respect to the lubricating oil pressure?

A. The lubricating oil pressure on October 16 is 18, and 18, 18, 18, 18 pounds right along, no change up and down, 18 pounds exact all the way.

Q. Is that possible? A. No.

(Testimony of J. D. Gilmore.)

The Court: What are some of the influences that make it impossible?

The Witness: Temperature of your oil, temperature [1340] of the sea water, revolutions per minute of the engine, all have an effect on that. They vary only maybe one or two or three pounds, but that variation is something that should be noted.

Q. You looked this log over before, have you not? A. Yes.

Q. Do you have any opinion as to the reliability of the entries therein?

A. Not a bit. This is the smooth log made up by the chief engineer.

The Court: I wonder if this answer was responsive.

Q. I asked if you had an opinion?

A. Yes.

Q. Would you state what it is?

A. The opinion is that this is a smooth log made up by the chief engineer, and I don't know from this how the watch engineers kept their log, whether they showed actual conditions, actual variations or not, but the chief engineer seemed to put in the figures here that do not mean very much. They are too even to be true.

Q. Are there any omissions which should be in the log?

A. Yes. The lubricating oil temperature in and out is omitted some places; his bearing temperature is omitted; the thrust temperature is omitted; his

(Testimony of J. D. Gilmore.)

lubricating oil consumption is omitted; the fuel oil consumed——no, that [1341] is different.

Q. In your experience, if you know, what is the practice in shipyards and in maritime affairs with respect to the responsibility of the shipyard for damages resulting from main engine breakdown where the work was done in the shipyard but under the direction of the chief engineer, the shipyard merely furnishing machinists along with members of the crew for the repair work?

Mr. Howard: I am going to object to that question on the basis of the Court's previous ruling when I on behalf of the claimant and cross libelant undertook to inquire of a witness in the case on the libel as to a practice in a shipyard. At that time the Court sustained objections by counsel for libelants to such questions to the witness.

I submit that the same ruling should prevail on the question that has been propounded by counsel asking this witness to testify as to what a practice is with respect to the shipyard and the damage that may be sustained.

Mr. Hokanson: I don't believe the situations are analogous. I can't recall on what grounds Your Honor sustained my objection to Mr. Howard's questions. The Court has heretofore received evidence on this.

The court: Upon whose questioning?

Mr. Hokanson: Upon my questioning, Your Honor. I [1342] asked Mr. Williams this very

(Testimony of J. D. Gilmore.)

question, and his testimony is recorded. I have it here; I can read the question and the answer he gave, to refresh Your Honor's memory.

The Court: Do you seek to elicit by this question different information from that given by Mr. Williams?

Mr. Hokanson: No, if Your Honor is satisfied with the testimony already given.

The Court: I will sustain the objection.

Mr. Hokanson: You may examine.

Cross-Examination

By Mr. Howard:

Q. By whom were you engaged to attend the Urania? A. When?

Q. On the date that you mentioned, the month of October, 1948.

A. Mr. Black, Commercial Ship Repair.

Q. And do you have a record of when you were aboard the vessel? Will you refer to your notes and tell us when you were aboard?

A. October 15, 1945.

Q. Were you aboard on any later date?

A. No.

Q. Just the one date? A. Right. [1343]

Q. Previously you had been aboard the vessel for some other purpose? A. Yes.

Q. Representing whom?

A. Bureau Veritas, that is the French Naval Classification Society, which is the same as the American Bureau.

(Testimony of J. D. Gilmore.)

Q. When was that, please?

A. That I haven't got in my notes here, but I think that was sometime in August.

Q. Of 1948? A. Yes.

Q. What was the purpose of your going aboard for Bureau Veritas at that time?

A. Mr. Williams had a wire from the owners that they requested that a certificate be obtained of the measurements of the vessel increasing her net tonnage over 500 tons. We were called over to examine the vessel and check her over and see if it were possible. It was impossible. We gave them a certificate to increase the net tonnage of the vessel, but not over 500 tons; submitted a bill to the General Steamship Company and I believe we were paid.

Q. Do you know how this vessel is classed?

A. American Bureau.

Q. Do you know how long it has been classed in the American Bureau? [1344]

A. At this time, as I understand it, she was billed under Navy regulations and was not classed at that time.

Q. Were you on the vessel on any occasion subsequent to October 15, 1948? A. No.

Q. Did you attend the vessel at Los Angeles on any occasion after that?

A. No. I would have been glad to, but was not notified.

Q. Mr. Gilmore, have you seen Exhibits A-21,

(Testimony of J. D. Gilmore.)

A-22 and A-23 before, or copies of them?

A. Yes, I have seen these.

Q. All three of them? A. Yes.

Q. Do you know any of these gentlemen: Mr. Pike, Mr. Dupuy, Mr. Summers?

A. I don't know Mr. Pike. I have met Mr. Dupuy, and I know Mr. Summers.

Q. Have you noted the conclusions they have reached in those survey reports with respect to the breakdown of the main engine and the parts that were damaged and the cause of the damage?

A. I have got Mr. Dupuy's here.

Q. Have you noted whatever conclusions or findings there are on each of the three reports? [1345]

A. The American Bureau——

Q. Can you answer me yes or no? Is that possible, Mr. Gilmore?

A. Yes, I have examined them.

Q. Do you or do you not agree with the conclusions and the findings that have been reached by those surveyors?

A. I do not agree with them.

Q. If you have a sample of fluid removed from the bottom of the crankcase of an engine and put in a pail or bucket in sufficient quantity that the substances, the fluids, will separate oil from water, let's say; if you taste the one substance that appears to be water, would you be able to tell whether that was salt water or not?

(Testimony of J. D. Gilmore.)

A. I presume that you would; I have never done it. I presume that you would be able to do that.

Q. The answer that you made then as far as the taste test not being adequate was not directed to such a test as I have just described?

A. No, no.

Q. When it comes to testing a lubricating oil cooler—and I believe you stated that as a matter of experience you would recommend one and a half times the operating pressures——

A. Yes.

Q. ——isn't it a fact that manufacturers usually [1346] specify the test pressures?

A. Sometimes they do and sometimes they don't. If they are building anything for the Navy, they must specify the test pressures. If they are building something commercially, they don't have to specify test pressures.

Q. Isn't it a fact that a test pressure is entirely different from an operating pressure?

A. Yes, test pressure is generally a little higher.

Q. Did you note the condition of the lubricating oil cooler when you were aboard the Tanker Urania on October 15?

A. No.

Q. Did you notice whether there was any test plate on it showing the test pressure on the salt water side of the lubricating oil cooler?

A. No, I did not.

Q. Would your opinion as to the proper test pressure be different if you assume the fact that there is a stamped plate on the lubricating oil cooler

(Testimony of J. D. Gilmore.)

showing a test pressure on the salt water side of 300 pounds per square inch?

A. Yes. I wouldn't put that pressure on that cooler the way it was put on.

Q. You wouldn't put it the way it was put on by Mr. Oakland?

A. No, I wouldn't put it on the way it was put on by Mr. Oakland.

Q. How would you put it on? [1347]

A. I would put it on when the head was on and the gasket was on to hold the interior part of that in place, in place of putting an excessive pressure on and only depending upon a soldered joint to hold it in place, on account of the construction of that cooler.

Q. I am afraid I didn't follow your answer. Could you amplify it for me?

A. That cooler has got a box and a core that goes in. The core goes down; it is soldered all around the edge and there is a cover put on there. There is a gasket under the cover and the gasket covers the joint and stiffens up that plate. You can put the pressure on—you have got the stiffness of the head and the gasket to hold that plate of the cooler in place.

You take that plate off and you put a pressure on the inside, and you can blow that right out because all you have got holding that in place is a soldered joint.

Q. If I understand you correctly, if you assume

(Testimony of J. D. Gilmore.)

that there is a stamped plate on the cover of the cooler showing a test pressure on the salt water side of 300 pounds per square inch, that you would not have tested it the way Mr. Oakland did?

A. No, I didn't say that. I said I wouldn't have tested it to 300 pounds the way Mr. Oakland tested it, because he had it apart. [1348]

Q. Assuming that there was such a test plate, how much pressure would you apply on the salt water side?

A. 18 pounds is the top pressure that that cooler operates under. It doesn't make any difference whether it is the salt water side or oil side, you still have 18 pounds as your top pressure on the cooler, and one and a half times, a little bit more—in common practice, 50 pounds is a nice pressure to put on and it doesn't strain anything. It will show the leaks. One and a half; according to the rules, not less than 15 pounds.

Q. What rules are you speaking of?

A. The American Bureau.

Q. Such a pressure might not be sufficient to develop leaks if the cooler hadn't been properly cleaned first before testing, isn't that a fact?

A. No.

Q. Why not?

A. Well, if you got dirt in there and it stops your leaks, it is just as well as anything else. You might just as well leave it there.

Q. Isn't it a fact that if you had salt or other

(Testimony of J. D. Gilmore.)

foreign material imbedded in your tubes or around the tubing or sheets, that it would not show leaks if the cooler had not been properly cleaned before 50 pounds, or one and a half times the operating pressure, was applied on a test? [1349]

A. If you had any dirt left in there, it would seal the leaks, that is correct. If it wasn't properly cleaned and there were openings, we will say, and they were sealed with dirt, they wouldn't leak.

Q. Let's look at this question of the galling of the gears. As I understand it, you expressed the opinion that the galling could not be caused by contaminated lube oil? A. That is right.

Q. Are you assuming, in rendering that opinion, that there was contamination of the lube oil?

A. No, I am not assuming that there was contamination of the lubricating oil.

Q. Assume that there was contamination of the lube oil: then what would be your opinion as to the possible causes of the galling of these vertical timing gears in the main engine of the vessel, bearing in mind, if you please, the other assumptions that counsel has heretofore stated in examining you?

A. Assuming contamination of the lubricating oil—we don't know what percentage of contamination there is, but it is my opinion that the bearings in the engine would fail long before the gears would fail through any contamination of lubricating oil.

Q. When you speak of a bearing, you are speak-

(Testimony of J. D. Gilmore.)

ing of a broad surface, are you not, the contact between two broad [1350] surfaces? A. Yes.

Q. And speaking of gears, do you have the same contact?

A. In a spiral gear, you have a certain wiping contact.

Q. How about in a helical gear?

A. You have it in a helical gear.

Q. What would you say as to the relative protection of a lubricating oil film that you would get between a bearing surface and a helical gear surface?

A. I didn't get you. Will you ask that question again, please?

Q. Will you read the question, please?

(Last question read by reporter.)

A. If your oil would adhere to your gears, you would have just as much protection as you would have the oil adhering to your shafting.

Q. Isn't it a fact that your protective oil film would break down faster on a helical gear than it would on a bearing?

A. You possibly have got more pressure per square inch on your gears than what you have on your bearings; but on your bearings you have a hard steel surface against a soft babbitt surface, and on your helical gears you have two hardened steel surfaces coming together which will stand considerable more pressure per square inch than what your [1351] babbitted surfaces would stand.

(Testimony of J. D. Gilmore.)

Q. This sample that has been referred to, that we assume was taken from a low spot of the engine; if the salt water in the lubricating oil was in that crankshaft, it would show up in a sample taken from a low spot of the engine bed, would it not?

A. Yes. I am surprised that the water is not given on this analysis.

Q. You say you never saw the lubricating oil cooler opened up on the Tanker Urania?

A. No.

Q. How do you know that that gasket covers the——

A. That is the standard design of a Harrison cooler or heat exchanger.

Q. And you are positive that the gasket does cover the soldered joint?

A. The gasket covers that soldered joint.

Q. Do you know what material the core of the Harrison cooler is made of?

A. No, but I imagine it is one of the cupro-nickels.

Q. You have expressed an opinion as to the sufficiency of the entries made in the engineer's log. Will you state from your experience whether it is the practice to maintain full and complete entries of the items and types described on a small vessel?

A. It should be.

Q. Do they do it on fishing boats?

A. No.

Q. Do they do it on ferry boats? A. No.

(Testimony of J. D. Gilmore.)

Q. Do they do it on tugs? A. No.

Q. How large is the Tanker Urania?

A. She is something under 500 net tons, 364 net; 500 and something gross; 560 horsepower engine.

Q. Then the practice you had reference to is a practice maintained on larger vessels, isn't that correct? A. Yes.

Q. And wouldn't necessarily apply to a vessel the size of the Urania? A. It should.

Q. But as a matter of experience, it doesn't apply, does it?

A. The Urania is a little bit different type of a vessel than a tug or a ferry boat or fishing vessel. She is a tanker, she carries, I understand, a chief and three watch engineers, so that for the chief engineer to actually know what occurs during the time that he is asleep, he must have log entries so that he can know what is going on in the engineroom when he is not there. [1353]

Q. What is the horsepower of the main engine on the Urania? A. 500 horsepower.

Q. Can you strike any average of the horsepower of the Diesel tugs operating between here and Alaska?

A. I can give you an illustration.

Q. Can you answer the question?

A. With tugs?

Q. Yes, the tugs operating between Puget Sound and Alaska.

(Testimony of J. D. Gilmore.)

A. They have got more horsepower, they have got 1200.

Q. You are referring to the miki-miki type?

A. The miki-miki type, yes.

Q. Those have 1200 or 1290 horsepower Fairbanks Morse Diesel engines in them, don't they?

A. Yes.

Q. Yet you say it is not a practice on tugs to keep full entries in the engine room log?

A. No.

Mr. Howard: No further questions.

Mr. Hokanson: I have no questions.

The Court: You may be excused.

(Witness excused.)

The Court: Further proceedings in this case are continued until Saturday morning at 9:30. Those connected [1354] with this case are excused until that time.

(At 5:15 o'clock p.m., Thursday, April 14, 1949, proceedings adjourned until 9:30 o'clock a.m., Saturday, April 16, 1949.)

April 16, 1949, 9:30 o'clock a.m.

OLE LILLEHEI

recalled as a witness by and on behalf of libelant, having been previously duly sworn, was examined and testified as follows:

Direct Examination

By Mr. Hokanson:

Q. You were the superintendent at Winslow during the repairs to the Urania?

A. Yes, sir.

Q. Do you recall the ship and its details of construction? A. Sir? [1355]

Q. Do you recall the Urania? A. Yes, sir.

Q. Did you ever see the day tanks on the Urania which contained the lubricating oil?

A. Yes, sir.

Q. Do you remember the size of the day tanks?

A. I would say they were about 24 by about 36.

Q. Do you know what capacity in terms of gallons a tank of that size would have?

A. I would say 75 or 80 gallons.

Q. What is the day tank?

A. The day tank is a—you would call it a reservoir where—well, if the engine is running, there is some pump which moves the oil from the base of the engine to the day tank and the lube oil pump takes the suction from the day tank and puts it throughout the lubricating system of the engine.

(Testimony of Ole Lillehei.)

The Court: That is what happens with respect to it, but what do you call it? Can you give it a name that reflects the function it performs in the power generating system?

The Witness: Your Honor, that would come under the lubricating oil system.

The Court: The day tanks are part of the lubricating oil system? [1356]

The Witness: Yes, sir.

The Court: Can you give them a name that reflects the function they perform?

The Witness: A day tank holds the amount of oil that you need to maintain the lubricating oil—to provide sufficient lubrication for that engine.

Q. It is a storage or reservoir tank for the lube oil? A. Sir?

Q. It is a storage or reservoir tank for the lube oil, is that right?

A. It is—well, it would be storage or a reservoir, you could call it either one.

Q. Do you remember whether there was more than one day tank on the *Urania*?

A. No, I don't.

Q. Did you see the Clayton boiler on the *Urania*?

A. Yes, sir.

Q. Did you ever see it in operation?

A. Yes, sir.

Q. Did you ever see the pump in operation?

A. Yes, sir.

(Testimony of Ole Lillehei.)

Q. When did you last see it in operation, if you remember?

A. The last time I saw it in operation was with Mr. Clarke, when he was over there on his survey.

Q. And do you remember when that was?

A. It was sometime in October, the first part of October.

Q. And was the pump then operating?

A. Yes, sir.

Q. Do you remember whether anyone else was present when you and Mr. Clarke witnessed the operation of the Clayton boiler?

A. I believe there was one pipe fitter and Mr. Clarke and myself. Of course, the ship's crew was there.

Mr. Hokanson: You may examine.

Mr. Howard: I have no questions.

The Court: Does an automobile have a part which corresponds to the day tank?

The Witness: No, Your Honor. An automobile—the reservoir for the oil is contained within the base of the engine, which takes its suction right from there.

The Court: What do you call it?

The Witness: The base of the engine.

The Court: The base of the engine acts as the day tank, reserving a sufficient quantity of lube oil to lubricate the engine?

The Witness: Yes, Your Honor.

The Court: Do the day tanks in connection with

(Testimony of Ole Lillehei.)

the engine on the *Urania* serve a similar purpose respecting [1358] that engine?

The Witness: That is right, Your Honor.

The Court: What function does the Clayton boiler serve on this ship, the *Urania*?

The Witness: The Clayton boiler, Your Honor, provides your heating system for your various parts of the ship, the rooms and mess rooms.

The Court: Provides steam heat, or some other kind?

The Witness: Yes, sir, steam heat.

The Court: Provides steam heat for what?

The Witness: For heating the vessel.

The Court: For heating the living quarters or anything else?

The Witness: The living quarters, correct.

The Court: And what else?

The Witness: And it also provides steam through the heating coils in the cargo tanks.

The Court: Is there anything else that is done by the Clayton boiler?

The Witness: I think, Your Honor, that it would be covered—I don't know whether I should mention this or not, but it has—on that *Urania*, you had the connection going to a hot water tank which heated it just as though it were your hot water tank at home, heated the hot water in this hot water tank for domestic [1359] use right in the galley, and so no.

(Testimony of Ole Lillehei.)

The Court: For heating water for personal use?

The Witness: Yes, for domestic use and showers, and so on.

The Court: What, if anything, did you do with reference to the day tanks and the Clayton boiler while the vessel was at the repair yard of the libelants at Winslow?

The Witness: That, Your Honor, I don't remember because I was all over the yard and I didn't take—I couldn't see all those things.

The Court: You don't know whether the work contracted was done on those parts or not, is that correct?

The Witness: I don't remember whether we had a job on it, to do anything to the day tanks.

Q. (By Mr. Hokanson): Are the day tanks part of the main engine? A. No, sir.

Mr. Hokanson: No further questions.

Mr. Howard: No questions.

The Court: You may step down.

(Witness excused.)

The Court: Call the next witness.

Mr. Hokanson: Mr. Short. [1360]

LESTER C. SHORT

called as a witness by and on behalf of libelants, being first duly sworn, was examined and testified as follows:

Direct Examination

By Mr. Hokanson:

Q. State your name, please.

A. Lester C. Short.

Q. Where do you live?

A. Seattle, Washington.

Q. What is your occupation?

A. Electrician.

Q. Where do you work?

A. Commercial Ship Repair, Seattle Division.

Q. What is your capacity there?

A. I am the general electrical foreman of the Seattle Division.

Q. What has your experience been as an electrician? A. Would you like that in detail?

Q. Just tell us generally what your experience has been.

A. I have served as electrician for the Pontiac Motor Company, Pontiac, Michigan; as electrician and chief electrician for Wheaton College, Wheaton, Illinois; and as electrician, leading man electrician and assistant foreman [1361] electrician for the Todd Pacific Shipyards, Seattle; and as lead man

(Testimony of Lester C. Short.)

electrician and foreman electrician for Commercial Ship Repair, Seattle.

Q. How many years experience does that cover?

A. My experience started in the year 1929 for the Pontiac Motor Company.

Q. What was your training or background in electrical work?

A. My earliest training in electrical work was at Coyne Electrical School, Chicago, Illinois; and then my actual apprenticeship was served at the Pontiac Motor Company, Pontiac, Michigan; and I have a B.S. degree from Wheaton College, Wheaton, Illinois.

Q. Have you ever taught electrical subjects?

A. I have.

Q. Where and when?

A. In the in-plant training program at the Todd Pacific Shipyards for approximately two years during the war, and then at the Edison Vocational School here in Seattle for approximately two years.

Q. Were you working for Commercial Ship Repair during the months of August, September and October, 1948? A. Yes.

Q. And did you have occasion on or about October 16 to go to Port Angeles, Washington, to attend the vessel *Urania*? [1362] A. I did.

Q. At whose request did you go to Port Angeles?

A. By the direct request of Mr. Black.

Q. What was the purpose of your visit?

A. I was sent up there to assist the ship because

(Testimony of Lester C. Short.)

they were having difficulty with their electrical steering system.

Q. When you arrived aboard the ship, what did you do with respect to the steering system, if anything?

A. The first thing I did was ask the ship to put the system in operation so that I could observe accurately just what the difficulty was, and I found that the steering system was what we term "hunting."

Q. You mean oscillating back and forth?

A. That is right.

Q. What did you do then?

A. I had the proper tools and instruments along for making a complete checkover of the electrical system involved in the steering, and after having observed the hunting or oscillating condition of the steering, we shut the plant down and made our usual checks for electrical systems, which includes checking the condition of the insulation, checking what we call continuity of the wires—which means whether anything is broken in the circuit—and after having determined that the system was intact electrically; upon [1363] close observation I found that the difficulty in the system was in the adjustment of the hydraulic cam on the telemotor control unit.

The Court: You found the trouble was where?

The Witness: In the electrical cam of the hydraulic control unit.

The Court: The electrical cam unit of what?

(Testimony of Lester C. Short.)

The Witness: Of the telemotor control.

Q. Where is the electrical unit located in reference to the vessel?

A. In what we call the steering engineroom, which is in the after part of the vessel.

Q. Is that part enclosed in any way?

A. Yes, it is. The switches are rather delicate and they must be kept enclosed to protect them from dirt and also from mechanical injury.

Q. When you arrived aboard and began your check, was the steering engine closed up?

A. No. The cover had been removed from the telemotor control unit.

Q. Could you describe in a very simple way the type of adjustment that you made and what effect that would have upon the system? A. Yes.

Q. Would you do so? [1364]

A. In the telemotor control unit we have two sets of moving parts. One moving part is controlled by hydraulic action from the steering wheel in the pilothouse through the action of the hydraulic fluid. The other moving part is moved directly by the rudder of the ship, and unless these two parts are in their proper mechanical relationship, the system will not function properly; and so what I accomplished there was to adjust these parts mechanically so that they were in the right relationship.

Q. How was that adjustment effected?

A. By—the actual physical operation of the adjustment?

(Testimony of Lester C. Short.)

Q. Yes.

A. By loosening two nuts on the cam arrangement. One is what we call a jam nut, which is just to keep the system from getting out of adjustment, and the other is a nut that actually permits the movement of the switches to be changed.

Q. Was there any defect in the adjustment that you refer to which would occasion those becoming out of adjustment? A. No.

Q. Is the control system of which you speak subject to becoming maladjusted in normal operation, if you know?

A. As far as I know, it would not be.

The Court: There is something right there that is [1365] important to the Court that is not being inquired about. That is what caused the maladjustment, if he knows what caused it. Did he try to ascertain it; if so, did he find out? Proper questions to bring out that information would be appropriate in this connection.

Mr. Hokanson: Yes, Your Honor.

Q. Mr. Short, after effecting the adjustment referred to, did you have any conclusion as to what had caused the system to hunt?

The Court: May I interrupt you? Mr. Short, did you ascertain what caused the maladjustment of those two functions, the hydraulic function and the manual function, of the parts which were maladjusted? Did you ascertain what caused that maladjustment?

The Witness: Your Honor, that would be diffi-

(Testimony of Lester C. Short.)

cult to ascertain.

The Court: It is not a question of how hard it was to ascertain it. Did you or did you not?

The Witness: That question can't be answered by yes or no. Would you like——

The Court: Proceed.

Q. Is there any part of this system apart from the electrical steering engine system which you worked on which would have any bearing upon the adjustment that you have referred to? [1366]

A. Yes.

Q. What other part?

A. If there were air in the system, that would cause a maladjustment of the system.

The Court: Did you find air in the system?

The Witness: No.

Q. Did you look for air as part of your duties aboard the ship? A. We did.

Q. After you had completed your work, did you test the system? A. We did.

Q. Did it operate satisfactorily?

A. It did.

Q. How long did you test it?

A. Of course, that is so long ago I couldn't say with absolute certainty, but I know it was at least half an hour.

Q. Some reference has been made in testimony earlier to finding of the broken wire down in the electric steering system. Did you find a broken

(Testimony of Lester C. Short.)

wire? A. I would like to explain that, if I may.

Q. Go right ahead.

Mr. Howard: I think he should answer that question yes or no, and then go ahead.

The Court: The Court so rules. Answer the question [1367] yes or no, and then if it needs explanation you will be permitted to give it.

A. During the course of my work there, I did find a broken wire.

Q. Do you have anything further to say about that wire? A. I do.

Q. State it, please.

Mr. Howard: I think the witness should be asked a question about it and not just——

Mr. Hokanson: I will withdraw the question.

Q. Where was the broken wire?

A. It was a flexible wire between the stationary part of the assembly going to the switch—which I stated earlier, of course, moves up and down.

Q. How big is that wire?

A. I can't say exactly, but I would estimate that it is an eighth of an inch in diameter, including insulation.

Q. When did you discover it to be broken?

A. When I was through completing my adjustment of the switches.

Q. Did you notice it when you first began your adjustment?

A. No, because it was not broken then.

(Testimony of Lester C. Short.)

Q. When did it become broken?

A. During the course of adjusting the switches. As I [1368] stated, the wire is very fine and flexible and at that time the wire was knocked off of its contact.

The Court: Did that occur while you were at Port Angeles?

The Witness: Yes, Your Honor.

Q. What instruments or tools did you use in effecting the adjustment that you have earlier discussed?

A. The adjustments themselves, the mechanical adjustments, require the use of two crescent wrenches.

Q. Do you know whether anyone had worked on the system prior to your arrival?

The Court: Answer yes or no.

A. No.

The Court: Did you talk with the master or chief engineer regarding the condition you found, or how it happened to be in that condition?

The Witness: In the limited way that we could, Your Honor. I wasn't well acquainted with these people, and as you understand, our method of communication was limited.

Q. What did you discuss with the master of the vessel, if you discussed anything with him at Port Angeles?

A. I just asked him what their difficulty was.

Q. Did you have any discussion after the sys-

(Testimony of Lester C. Short.)

tem had been proved in good working order? [1369]

The Court: Where?

Q. At Port Angeles? A. Yes, I did.

Q. What did you discuss with him?

A. He inquired as to the use of what we call the hand control of the steering.

Q. What did you say?

A. I explained its function and how to use it.

Q. Did you demonstrate how it was used?

A. We certainly did.

Q. For how long a period?

A. Oh, at least 15 or 20 minutes.

The Court: How would that help the Court to tell what caused this damage? I do not see how that question and answer could help the Court determine that question. If you could bring out from this witness any knowledge or information he may have as to the cause of this damage, the Court would welcome that information at this time.

Q. Was there anyone present when you worked on the switch that you said was broken during the course of your repairs? A. Yes.

Q. Who?

A. As near as I can recall, the chief engineer himself [1370] was there, and also the mate.

Q. Are you acquainted with the details of the telemotor system on the *Urania*? A. I am.

Q. Do you have any opinion as to the cause of the hunting of that system as you found it when you arrived at Port Angeles? A. Yes.

(Testimony of Lester C. Short.)

Q. What is that opinion?

A. It looked to me as though the system had been tampered with.

Q. What part of the system?

A. The part enclosed by the cover, that I told you had been removed when I arrived in the engine room.

Q. You mean the part that you worked on?

A. That is correct.

The Court: The cam unit, in other words?

The Witness: Yes, Your Honor.

The Court: Which was enclosed in an enclosure?

The Witness: Yes, Your Honor.

Q. But that enclosure was removed when you arrived on board? A. Yes.

Mr. Hokanson: No further questions. [1371]

Cross-Examination

By Mr. Howard:

Q. Who was the manufacturer of this telemotor steering system?

A. The Webster-Brinkley Company of Seattle.

Q. Have you worked on telemotor system manufactured by that company before?

A. I couldn't say. I have worked on many telemotor system during the course of my experience in the shipyard. I believe I have.

Q. Were you acquainted with the wiring system, the hookup for this particular telemotor that was installed on the *Urania*? A. Yes.

(Testimony of Lester C. Short.)

Q. Had you done any work on the steering system in the shipyard? A. No.

Q. Do you know what work was done on the motor in the Commercial Ship Repair yard of your own personal knowledge? A. No.

Q. Do you know whether the steering motor that you have referred to in the steering engine room had been opened up in the shipyard, of your own personal knowledge?

A. As I stated earlier, I am the foreman of the Seattle Division, and the supervisor at Winslow explained to me that [1372] that had been accomplished.

Q. I asked you if you knew of your own personal knowledge? A. No.

Q. Was Mr. James Clarke, a marine surveyor, present when you made these adjustments on the telemotor engine at Port Angeles?

A. I couldn't say, because as you would understand, it requires people in the pilothouse and also the steering engine room. Part of the time he was in communication with us from the pilothouse by telephone. I don't know if he was present at this time or not.

Q. Was he down in the steering engine room at any time while the ship was in Port Angeles?

A. Yes.

Q. Do you recall having pointed out to him this broken wire in the steering engine motor?

A. No, I don't.

(Testimony of Lester C. Short.)

Q. You don't recall having pointed that out to him? A. No.

Q. Do you recall having reported to Mr. Clarke, this marine surveyor, that this broken wire was what caused the rudder or the steering system to hunt or oscillate?

A. No, I wouldn't have reported that, because that wire could not have caused the hunting and oscillating condition.

Q. I believe you said that you couldn't tell whether [1373] anyone had worked on this wire or not before you arrived aboard the ship?

A. I didn't say that, not about the wire.

Q. Did you not make a statement in response to Mr. Hokanson's question that you couldn't tell whether anyone had worked on the wires in this steering engine motor? Do you recall that?

A. No.

Q. Do you recall having stated in response to a question on direct examination that you couldn't tell whether anyone had worked on the steering engine system?

A. Yes, I recall making that statement.

Q. How do you explain your subsequent answer, where you say it looked like the system had been tampered with?

A. Because when that system is out of adjustment, to put it back into adjustment it required the loosening of two nuts, as I have stated earlier, and I don't know how they could have become loose.

(Testimony of Lester C. Short.)

The Court: Did you find them loose?

The Witness: No.

The Court: Why do you discuss the looseness if you didn't find them loose? I do not see any point in your wasting that much of your time.

I wish we could confine our inquiries to the things that are calculated to bring out information that will [1374] help me, as the fact trier, to determine what caused this function and failure of the tele-motor. I am not interested in anything else at the moment. I might be interested in the extent of damage.

Q. Isn't it possible that this broken wire that you found, the wire that was knocked off the contact, had existed prior to your arrival aboard the ship? A. No, it isn't possible.

Q. Why not?

A. Because the steering system would not function with that particular wire broken off.

Q. Isn't it possible that that wire in the condition in which you found it on your arrival aboard the ship at Port Angeles might have made contact and broken again, made contact and broken?

A. It is possible.

Q. In other words, it wasn't what you call a complete break in that wire, was it?

A. Upon the examination of the system at the outset, I found nothing that would indicate that there was any break in the wire whatsoever. As I stated, I checked the system with my electrical

(Testimony of Lester C. Short.)

instruments and proved we had continuity of wiring.

Q. If this wire would make contact and break from time to time, wouldn't that in itself explain the hunting or [1375] oscillating of the system?

A. It would not.

Q. Why not?

A. Due to the way—due to the function of that switch in the circuit.

Q. Mr. Clarke has made a report of his survey at Port Angeles which has been admitted as Respondent's Exhibit A-7, in which he states as follows: "Upon arrival at Port Angeles, a launch was hired to transport workmen to the vessel, whereupon arrival on board it was found that steering gear mechanism was oscillating from side to side as much as 60°. The entire system was examined and a broken wire was found in the motor control wiring. From the appearance of this wire, it was evident that the break was not complete, but would make and break, thus causing the controlling motor to hunt. This trouble was corrected and the steering system was thoroughly tested to the satisfaction of the master and chief engineer."

Do you agree with that statement? A. No.

Q. Why not?

A. Because, as I stated, the particular wire that was broken there would not have caused a hunting condition.

Q. You found no air in the system?

A. We did not. [1376]

(Testimony of Lester C. Short.)

Q. Then what would cause the hunting of the system?

A. The improper mechanical relationship between the two moving parts of the upper system.

Q. Can you reduce that to simpler terms for us, or amplify it a little bit, please?

A. Poor adjustment between the electrical and the mechanical parts.

Q. And that condition might have existed for some time, isn't that true?

A. No, it couldn't have. The system wouldn't have worked.

Q. Would it have worked at all? A. No.

Q. Do you mean to say that the telemotor system would have been entirely inoperative then?

A. Well, it would have hunted.

Q. But you can't say that these nuts were loose when you first checked the system aboard the vessel?

A. No.

The Court: For my convenience, will you repeat your statement as to what caused the hunting?

The Witness: The improper relationship between the mechanical and electrical parts of the control unit.

Q. I would like to have you amplify that for us, if you could. I am not satisfied that we have the exact [1377] meaning of what you are saying there in rather technical terms.

A. Simply stated, the adjustment was such that two switches were turned on at the same time. One

(Testimony of Lester C. Short.)

switch would demand the system to turn to the right; the other switch would demand the system to turn to the left, and it would respond in turn to these two switches.

Q. And would that in turn cause the rudder to oscillate from one side to the other? A. Yes.

Q. Is that a constant condition, or is that a condition that might appear and then disappear?

A. The actual oscillating condition only shows up when the steering wheel is at rest.

Q. In other words, if your wheel was turned hard right, or so many degrees to the right, the oscillating wouldn't appear then?

A. That is right. The system would follow the wheel clear over to the right, and if the wheel were left there, then it would swing clear over to the right, and then it would leave that position and swing back to the left.

Q. What was there about the condition of the system as you saw it that led you to reach the opinion that the system had been tampered with?

A. The system worked properly during the sea trials.

Q. How do you know that? [1378]

A. I am informed by those that were on the sea trial.

Q. You don't have personal knowledge of that?

A. No, sir.

Q. How do you know that the system had been recently tampered with?

(Testimony of Lester C. Short.)

A. I didn't say I knew.

Q. You reached that opinion on the basis of some report you had received as to previous condition?

A. The ship's master told me that some distance before they reached Port Angeles, this system developed——

The Court: Do you mean this trouble in the system developed, is that what you mean?

The Witness: Yes, Your Honor, which naturally, according to his testimony, I was led to believe that the system had worked up to that time. Now, if something suddenly comes up that makes it cease functioning properly and I correct it by the changing of the position of the switches, by the adjustment I described, that would lead me to believe that it had been moved, the adjustment had been changed.

Q. You have no way within your personal knowledge of knowing what the condition of that tele-motor system was when the ship left the Winslow yard of Commercial Ship Repair, have you?

A. No. [1379]

Mr. Howard: That is all.

Redirect Examination

By Mr. Hokanson:

Q. How large is the cover that was removed from the steering engine?

A. I would only be able to give you an estimate there. I would estimate it was about 10 inches high and about a foot square.

(Testimony of Lester C. Short.)

Q. Is it through that aperture that you had to work?
A. Oh, yes, certainly.

Q. Could the maladjustment that you found have existed without an actual change in the setting of those controls by some person?

Mr. Howard: Objected to as leading.

The Court: The objection is overruled.

If you know.

A. I don't know.

Q. In the condition that you found the system, could it have operated successfully without hunting?

A. No.

Mr. Hokanson: I have no further questions.

Mr. Howard: No questions.

The Court: You may step down.

(Witness excused.)

HAROLD WELLS

called as a witness by and on behalf of libelant, having been first duly sworn, was examined and testified as follows:

Direct Examination

By Mr. Hokanson:

Q. State your name, please.

A. Harold Wells.

Q. Where do you live?

A. Winslow, Bainbridge Island.

Q. What is your occupation?

A. Electrician.

(Testimony of Harold Wells.)

Q. For whom do you work?

A. Commercial Ship Repair.

Q. In what capacity?

A. At present, electrical foreman, Winslow Division.

Q. How long have you worked for Commercial Ship Repair?

A. Since they took over the Winslow yard.

Q. And that was when?

A. I do not recall the exact date.

Q. What was your occupation prior to that time?

A. Electrician.

Q. Where did you work? [1381]

A. At Winslow for another company.

Q. Was that the Winslow Marine Railway & Shipbuilding Company? A. Yes, sir.

Q. How long had you worked there?

A. Since 1942.

Q. In what capacity?

A. In various capacities, as leading man, assistant foreman.

Q. What other experience have you had in electrical work?

A. Generally, nothing beyond 1942 in the marine end.

Q. Were you working for Commercial Ship Repair at Winslow during the months of August, September and October 1948? A. Yes, I was.

Q. Do you remember the vessel *Urania*?

A. Yes, I do.

(Testimony of Harold Wells.)

Q. Did you do any work on her telemotor system?

A. We did some work on the electrical end.

Q. What did that consist of, if you remember?

A. The wiring to the micro-switches, or switches that have been previously discussed, was disconnected at the time the vessel was in the yard, when it came in. Another fellow, another electrician and myself went down and [1382] checked the wiring through and ascertained the proper hookup on the micro-switches, and it was connected and tested.

Q. In your presence? A. Yes, sir.

Q. Do you remember when that was?

A. The exact date, I do not.

Q. Did you see the telemotor system in operation after you had done your electrical work?

A. Yes, I did.

Q. For how long a period?

A. I should say over a period of possibly from one to two hours, I don't recall exactly, intermittently.

Q. Was it in proper operating order?

A. It appeared to be to me, yes, sir.

Q. Was there anyone else present when you saw it in operation?

A. Yes, there was another electrician I recall being there, the one who worked with me on it, and I believe some of the ship's crew. Who they were, I could not say.

(Testimony of Harold Wells.)

Q. Did you ever discuss the system with some of the officers of the vessel?

A. I did with the chief engineer, to the best of our ability.

Q. What was the nature of that discussion?

A. Trying to explain to him how the different systems [1383] worked, the operation of the thing, and also certain vulnerable switches that must be left on, and how to transfer from the wheel steering to your drum control steering.

Q. You have an alternate steering system on the vessel? A. Yes, sir.

Q. You gave him those instructions concerning the use of the alternate system?

A. To the best of my ability.

Mr. Hokanson: That is all.

Cross-Examination

By Mr. Howard:

Q. You said that these micro-switches were disconnected when you checked the system?

A. At first, yes, sir.

Q. How did you determine the proper hookup of those switches?

A. That was determined if the motor performed the function it was supposed to; in other words, when it was a righthand position the motor turned to, you turn the rudder in righthand position.

Q. It was a trial and error test, is that it?

A. In part, yes.

(Testimony of Harold Wells.)

Q. Do you know who the manufacturer of this system is? [1384]

A. At the time I don't think I knew.

Q. Did you refer to any wiring diagrams to determine the proper hookup of these switches?

A. I personally did not.

Q. After you had tried them out to see if they responded properly when the system was in operation, then you hooked up these micro-switches?

A. Would you reframe your question, please?

Q. Read the question, please.

(Last question read by reporter.)

A. I couldn't have; I had to hook up the micro-switches first before I could ascertain if it was operating.

Q. After you found that they responded properly when the system was in operation, you left the hook up as you had connected it? A. Yes, sir.

The Court: To whom did you say you explained this matter?

The Witness: The chief engineer, Your Honor.

Q. When was this check of the operation of the system made; while the ship was at the yard or while it was on its sea trial?

A. Prior to the sea trial, at the yard, dockside.

Q. You weren't present, then, when the system was in operation during the sea trial? [1385]

A. No, sir, I wasn't on the sea trial.

Q. Did the chief engineer seem to understand your explanation of these switches, etc.?

(Testimony of Harold Wells.)

A. I wasn't quite sure; in fact, I went so far as to give him a set of phones, telephones.

Q. Did you see the system at Port Angeles?

A. No, sir.

Q. The only time you saw this system was in operation was after you had connected up these micro-switches?

A. Yes, sir.

Q. Did you find any other deficiency or defect in the telemotor engine in the steering engine-room at that time?

A. Not that I recall.

Q. Did you do any other work on the steering engine motor, the telemotor in the steering engine-room at that time?

A. On the motor proper, not that I recall.

Q. Did you do any other work on the telemotor system?

A. No, not that I recall.

Q. Do you know of your own personal knowledge whether anybody else at the shipyard did any other work on the telemotor system during the period the *Urania* was at Winslow?

A. I believe the machinist, Mr. Woodman, was down there at one time on the telemotor.

Q. While you were there?

A. I was there briefly at one time while he was there. [1386]

Q. What work was he doing?

A. I believe he was working on the telemotor lines. I couldn't tell you exactly what he was doing.

Q. How was the system tested during this one to two hour period of operation?

(Testimony of Harold Wells.)

A. By the operation of the wheel and also by the operation of the drum control.

Q. Of the drum control? A. Yes.

Q. Will you explain that, please?

The Court: Specifically state whether you have mentioned it by any other words before this or not.

A. The steering mechanism electrically may be operated in two manners. One is through control of the steering wheel through its telemotor setup, and the other is direct electrical control, which merely gives you a right rudder or left rudder with no follow up. In other words, it runs as long as the switch is held, we will say, to the right, it will run to the right. When this electrical switch is held to the left on this drum control, it will run to the left as long as the switch is held in that position, until it meets its limit switches at the end of its travel.

Q. And this drum control, this latter method, when it is in operation from the pilothouse, it will continue to turn the rudder through the steering engine one direction [1387] or the other until it reaches the end of its travel? A. Yes, sir.

Q. What effect would these micro-switches have on such an operation?

A. They are not in the circuit, I believe, at the time you are using the drum control. It is necessary to transfer electrically from one system to the other type of control.

Q. So that when the system was being tested on

(Testimony of Harold Wells.)

the drum control, any misconnection in the micro-switches would not be apparent?

A. I believe not.

Q. Let's go back to the other system—that is where you use the wheel in the pilothouse, isn't it?

A. Yes, sir.

Q. The transmitter wheel of the telemotor system? A. Yes, sir.

Q. What effect would the operation of that wheel have on the misco-switches? Would they be in use then? A. Yes.

Q. How do you know that the system was tested on the transmitter? A. I did it myself.

Q. Where did you go, up to the pilothouse to do that? A. I did. [1388]

Q. How could you tell if the system was functioning properly?

A. I had a man at the after steering flat.

Q. What effect would that have, having the man back there?

A. He knew whether it was operating or not.

Q. How could he tell?

A. By observing it. Also, you have an indicator that tells you when your rudder is moving, and that is located also in the wheelhouse.

Q. How long did you manipulate the transmitter wheel on the telemotor system in the pilothouse?

A. On the telemotor itself, I should judge probably up to an hour. I couldn't be sure, but approximately an hour, I would say.

(Testimony of Harold Wells.)

Q. Did you make any adjustment in the tele-motor engine in the steering engineroom after that?

A. I did not.

Q. Did anyone else, to your knowledge?

A. I couldn't say. Not that I know of, I don't recall.

Q. Did you have to make more than one adjustment on the micro-switches before you got the proper hookup on them?

A. That I couldn't say for certain either.

Q. Why did you have to operate the system for an hour to test it out? [1389]

A. It was during the duration of an hour. It is common practice to run them back and forth to make sure they are functioning.

Mr. Howard: I have no further questions.

Redirect Examination

By Mr. Hokanson:

Q. Were you satisfied that the system was operating in a satisfactory condition when you completed your work? A. Yes, I was.

The Court: When, originally or at Port Angeles?

Q. Were you at Port Angeles?

A. No, sir.

Q. Then what time do you have reference to?

A. Prior to their sea trials.

Q. When you completed your work?

A. Yes, sir.

The Court: Where were you when the condition

(Testimony of Harold Wells.)

that caused you to express the opinion that somebody had tampered with the parts——

Mr. Howard: Your Honor, I believe this witness has not testified to any such condition. It was the previous witness who testified as to the tampering.

The Court: I believe that is correct, and the Court confused the two witnesses at the moment.

Mr. Hokanson: That is all, Mr. Wells.

Mr. Howard: No further questions.

The Court: You may step down.

(Witness excused.)

FRANK E. BLUMBERG

called as a witness by and on behalf of libelants, having been first duly sworn, was examined and testified as follows:

Direct Examination

By Mr. Hokanson:

Q. State your name, please.

A. Frank E. Blumberg.

Q. Where do you live?

A. At 10013 Richwood Avenue, Seattle.

Q. What is your occupation?

A. I am a mechanical engineer.

Q. What licenses do you hold?

A. I hold a professional engineer's license in the State of Washington, qualified in mechanical engineering, naval architecture and marine engineering.

Q. What experience have you had as a marine engineer?

(Testimony of Frank E. Blumberg.)

A. I have served three years apprenticeship as a [1391] machinist doing mostly marine work; during the first World War I was a machinist's mate in the Navy and later as a junior engineering officer in which I was at sea about eight months. I had two and two-thirds years at the University of Washington, Department of Mechanical Engineering, and in the last 25 years I have practiced mechanical engineering or marine engineering. That includes the period from December of 1940 to July of 1947 as assistant chief engineer at Todd Pacific Shipyards, Seattle Division. During that time I had charge of the engineering department, the machinery division of the engineering department.

Q. What is your present position?

A. At present, I am self-employed, in a partnership.

Q. In what business?

A. Mechanical engineering and naval architecture and marine engineering.

Q. Are you acquainted with the Harrison type heat exchanger? A. Yes.

Q. Are you acquainted specifically with Model HE 1120-360, the lube oil cooler, Harrison type?

A. Yes.

Q. Do you know the type of construction in the Harrison cooler of the type mentioned?

A. Yes, reasonably well, sir. [1392]

Q. In your marine engineering experience, have

(Testimony of Frank E. Blumberg.)

you had anything to do with the cleaning and testing of Harrison type heaters?

A. Yes, it has been done under my direction at times.

Q. Where?

A. At the Todd Pacific Shipyards.

Q. Were you in court on Thursday when Mr. Oakland testified? A. Yes, I was.

Q. Did you hear his testimony with reference to the method he used in cleaning and testing certain heat exchangers and oil coolers? A. Yes.

Q. Referring to his testimony with respect to the method used on cleaning and testing, what is your opinion as to the method used?

Mr. Howard: Just a minute, please. I challenge the qualifications of this witness to express an opinion on the proper methods of cleaning and testing a Harrison type cooler. I recognize that this man has traced some experience in marine engineering work and employment at Todd Shipyards, and he has stated that they have cleaned and tested such coolers at Todd Shipyards, but I submit that is an inadequate foundation or basis for him to express an opinion as to the proper methods, or the [1393] propriety of the method used by Mr. Oakland at the Winslow shipyard.

The Court: In view of the objection, does counsel inquiring approve of submitting a supposititious question upon the facts which he thinks have been testified to by some witness, and all of those which

(Testimony of Frank E. Blumberg.)

are material, in asking if such a procedure is an approved procedure in the field of engineering which is involved?

Mr. Hokanson: If I understand the Court correctly, it is proposed that I propound a question including the various steps taken by the witness heretofore referred to, rather than to refresh his memory by directing his attention to what he heard on Thursday?

The Court: Particularly when there is objection to doing it that way, it never seems to the Court appropriate to have one witness comment upon the quality of another witness' testimony.

Mr. Hokanson: Very well, Your Honor.

Q. Assume that the Harrison lubricating oil cooler Model HE 1120-360 with a rated operating pressure of 7 pounds on the salt water side and 18 pounds on the lubricating oil side is taken to a pipe shop in a shipyard where the plates are taken off the ends and Jamlen compound chemical is used in cleaning the salt water side by flushing it through for a period of 4 hours; and upon the completion of that process the salt water side is flushed out with water and thereafter is blown out with an air hose; and assume that the lubricating oil side is cleaned by the use of Jamlen oil compound in accordance with factory instructions, is flushed through the oil side for a similar period and that side is thereafter blown out with air with an air hose; that the cooler is then subjected to a hydro-

(Testimony of Frank E. Blumberg.)

static test under water on the salt water side of 50 pounds for a period of 20 minutes and no leaks are disclosed: what is your opinion as to the method used?

Mr. Howard: I object to that hypothetical question because I submit to Your Honor it fails to include several important factors. First of all, this witness has not testified that he is acquainted with or knows of this Jamlen solution that was used. Secondly, as I recall the testimony of Mr. Oakland, he testified to putting some acid in on the salt water side first to circulate it for a certain period of time, which has not been included in this question.

I also object on the ground that the question does not indicate the temperature at which this cleaning fluid was put into the system for the purpose of cleaning it; and lastly, on the ground that the condition of the cooler at the time of the test has not been indicated so as to show the extent of cleaning that might be [1395] required. I submit to Your Honor that might vary materially according to the condition of a particular cooler.

The Court: The objection is sustained, with leave to modify the suppositious question by stating conditions involved.

Q. Assume further that in this test the cooler in question has been out of use for some period of time but otherwise was in good condition; assume that the acid referred to is a Jamlen chemical used in cleaning heat exchangers and that the same was

(Testimony of Frank E. Blumberg.)

heated to a temperature of 70 to 80 degrees while circulated through the salt water side: with those assumptions in mind, first let me ask you, do you know what the reputation of Jamlen cleaning compound is for use in heat exchangers?

A. I know Jamlen cleaning compound by reputation only. I have never used it.

Q. What is the reputation, if you know?

A. The reputation is that it is a satisfactory cleaning compound.

Q. Having heard the assumptions, do you have an opinion as to the method used in cleaning the heat exchangers?

Mr. Howard: I object to the question on the basis of the witness' own testimony that he has never used Jamlen's cleaning compound, knows it by reputation only, [1396] and that this witness cannot testify to the reliability of a cleaning compound he knows by reputation only. They have endeavored to qualify him as an expert and are asking a question which includes the factor of the adequacy of a particular type of cleaning compound which he has no direct knowledge of. He has so testified.

Q. Assuming that Jamlen is a recognized and accepted and satisfactory cleansing agent for use in this type of cooler, what is your opinion as to the method used?

Mr. Howard: I renew my objection on the same ground, that that is an assumption that cannot be made on the basis of the evidence in this case.

(Testimony of Frank E. Blumberg.)

Mr. Hokanson: Mr. Gilmore stated emphatically that Jamlen was a recognized and excellent cleaner for use on these coolers.

Mr. Howard: He was then testifying to his opinion based on his own knowledge of that cleaner, but this witness has no such knowledge.

The Court: The objection is overruled.

A. I think that was a satisfactory method of cleaning and testing the lubricating oil cooler.

Q. If you know, does that conform to the shipyard practice in this area?

A. Yes, that conforms.

Mr. Howard: Same objection, if the Court please, [1397] continued to these subsequent questions.

The Court: Is there any objection to that?

Mr. Hokanson: I have no objection to a continuing objection.

The Court: The Court approves.

Q. Assuming the facts heretofore given you with respect to cleaning method used; and assuming that the cooler in question had a plate on the outside giving a test pressure figure of 300 pounds, taking into account the operating pressures which I have already included in the question: would your opinion be the same as to the propriety of the method used? A. Yes.

Q. Why?

A. Because the test pressure stated on the name plate is a factory test pressure. It is put on there

(Testimony of Frank E. Blumberg.)

to prove the factory's own design and workmanship.

Q. Is it the practice in shipyards, if you know, to test at the pressures given on these plates?

A. No, not generally.

Q. Why not?

A. Because they test according to the use to which the apparatus is to be put.

Q. Is it the practice in shipyards to test coolers with air pressure under water, if you know? [1398]

A. No.

Q. Why not?

A. Because the hydrostatic test is safer and is considered satisfactory.

Q. When you say "hydrostatic test", would you explain what that is to the Court?

A. A hydrostatic test is filling the interior of, we will say, a cooler with water and then subjecting that to a pressure somewhat higher than the usual working pressure. In case of a failure during that test, there would be no injury to personnel, but if it were tested with air and there were a failure, there might be an explosion resulting from the expansion of the air.

Q. Assume that the same cooler in question was put in a vat of L 27 caustic solution and boiled at a temperature of 212° Fahrenheit for a period of four hours: could that in your opinion cause leaks around the seams where the soldered joints of the plate meet the housing?

Mr. Howard: I will object to that hypothetical question on the basis that he has asked the witness

(Testimony of Frank E. Blumberg.)

about a certain L 27 compound. The witness hasn't testified one way or the other whether he knows anything about this compound. I object further on the ground that counsel has used the figure of 220° Fahrenheit. I submit to Your Honor that the record in this case does [1399] not show that the cooler was cleaned at any time at such a temperature.

Mr. Hokanson: May it please the Court, I believe counsel is mistaken when he quoted me as having said 220. I said 212.

Mr. Howard: Perhaps I misunderstood you. The same objection.

Q. Are you acquainted with a compound known as L 27? A. No, sir.

Q. Assuming L 27 is a caustic and is a fluid, would its characteristics be any different at a boiling temperature, insofar as its effect upon the expansion of metal is concerned, than water?

Mr. Howard: If the Court please, the assumption that a certain L 27 compound is a caustic seems to me to be entirely inadequate to enable this witness to reply intelligently to such a question. Caustic is a rather broad term. Unless counsel can establish the chemical qualities of L 27, I submit that any such assumption in a hypothetical question to this witness is improper.

The Court: The objection is sustained.

Mr. Hokanson: May it please the Court, the only evidence we have as to what L 27 is in the record is by the cross libellant's witness, who stated that

(Testimony of Frank E. Blumberg.)

it is a [1400] caustic compound. I will, however, attempt to reframe the question.

Q. Assuming that a proper cleaning fluid for the cleaning of a heat exchanger of this type is heated at 212° Fahrenheit and that the cooler is immersed in this cleaning fluid for a period of four hours at that temperature; have you any opinion as to whether that could cause fractures in the soldered joint of such a cooler?

Mr. Howard: I renew my objection on the ground that the testimony does not show that the cooler was ever immersed in a solution at 212° Fahrenheit. I call Your Honor's attention to the testimony of Mr. Weiler, who on cross-examination by Mr. Hokanson indicated that the cooler was immersed in the tank at about 180°, and he explained why that was done, so he wouldn't get a lot of steam in his face. If it had been immersed at a 212° Fahrenheit boiling temperature——

Mr. Hokanson: I regret to have to correct Mr. Howard, but the witness' testimony was——

The Court: Name the witness.

Mr. Hokanson: Mr. Weiler. ——that when he first put the cooler in the tank, he reduced the temperature so as to eliminate steam in his face, and then increased it to the boiling temperature.

The Court: If you have before you the record, why [1401] do you not cite the record and read it, rather than make argument?

(Testimony of Frank E. Blumberg.)

Mr. Hokanson: Directing the Court's attention to page 179:

"Q. Now, when you introduced these heat exchangers into the solution, is the thing boiling at that time?

A. Well, it may or it may not be.

Q. Do you remember whether it was in this case?

A. No, it wouldn't be.

Q. Well, now, I want you to answer from your recollection and not by reasoning it out, Mr. Weiler.

Mr. Howard: Let him finish his answer, counsel.

The Witness: Well, I know it wouldn't be, because if it was boiling and you raise the lid on the tank, all of the steam will come right up in your face, so, anyway, every time I go there I cut it off to reduce the boiling so that I can at least get it in the tank, and that is another thing that I will put in the tank with a hoist.

Q. That would be still high temperature when you introduce them into the tank?

A. Yes, I would say it was around 180—something below boiling.

Q. So you wouldn't have the steam in your face?

A. Yes. [1402]

Q. And then you would increase it to boiling?

A. Yes; I would close the lid and increase the heat."

The Court: Let that condition in that form be stated to the witness. I believe your statement is in a little different form.

(Testimony of Frank E. Blumberg.)

Q. Assuming that the particular cooler was placed in a proper cleaning fluid, or a heat exchanger of this type under the circumstances explained in the questions and answers that you have just heard; and that after being placed in such a vat was boiled for at least three hours at 212° Fahrenheit: would you have any opinion as to what effect such a process could have upon the seams or soldered joints of the cooler?

Mr. Howard: I will have to renew my objection on the basis of there being no testimony, as counsel has now assumed, that it was introduced at a temperature as described in Mr. Weiler's testimony and then boiled for three hours.

Mr. Hokanson: I am trying to reduce it in your favor, counsel. Earlier, I said four hours.

The Court: The Court will indulge about another minute to get this question straightened out. If you do not succeed in that time, the Court will ask you to pass on to something else. [1403]

Mr. Hokanson: Page 171, Mr. Weiler's testimony:

“Q. What did the boiling process consist of?

A. It consisted of putting them in a tank and boiling them to get the scale loose.

Q. For how long did you do that, approximately?

A. For three or four hours—something like that.”

Mr. Howard: I waive my objection.

The Court: Mr. Witness, do you know what ques-

(Testimony of Frank E. Blumberg.)

tion is before you? Do you think you have it in mind?

The Witness: I think I do, sir.

The Court: What is it you wish him to answer?

Q. The question I asked is: what is your opinion, if you have one, concerning what the effect of such a process of cleaning would be upon the soldered joints of this heat exchanger, with which you have established you are familiar?

A. I believe that due to unequal expansion of metals in there, it is possible that there could be leaks caused by that temperature.

Q. If you know, is it possible for leaks to develop in this type of heat exchanger around the soldered joints while a vessel is at sea when carrying such a type of cooler on its engine? A. Yes.

Q. How? [1404]

A. By engine vibration; by it being installed in a cramped condition—that is, perhaps not fitting accurately or not fitting accurately on its foundation. There may be action from the salt water, especially if any foreign matter was carried in it.

Q. Assume the facts I have heretofore given you with respect to the cleaning of this cooler in a temperature of 212° Fahrenheit; and assume that after that process is completed the cooler is immersed in water and air pressure of 160 to 200 pounds is applied to the salt water side with the result that leaks are seen around the seams as evidenced by air bubbles the size of a pen point; and further keeping in

(Testimony of Frank E. Blumberg.)

mind that the leaks around the seams are not detectable by visual means: what is your opinion as to the method of testing used?

A. In the first place, I would not care to be present during that test because——

Mr. Howard: I move to strike that part of the answer.

The Court: The motion is granted.

Just answer the question.

Q. What is your opinion?

A. The test is an extremely severe one.

Q. Why?

A. Because a test of air under water of 160 to 200 [1405] pounds would be—a quite common air test for valves or fittings which are used is an internal working pressure of steam or water of say 600 pounds per square inch.

Q. Can you compare the air pressure test with the hydrostatic test in terms of its ability to show leaks?

A. A hydrostatic test is put on at one and a half to two times the usual working pressure to show leaks and to show strength. An air test is used to show porosity only.

Q. What do you mean by porosity?

A. Small holes, very fine cracks through plate or casting or anything making the wall.

The Court: Do you or do you not mean a porous condition?

The Witness: Yes, a porous condition.

(Testimony of Frank E. Blumberg.)

Q. Do you have something further to add to the answer to the previous question?

A. And an air test is usually only a fraction of the usual working pressure.

The Court: Court will be in recess for ten minutes.

(Recess.)

Q. Mr. Blumberg, are you able to compare an air test under water at 160 pounds with a hydrostatic test?

A. An air test of 160 pounds under water is usually applied to a fitting or a valve or casting, a pressure vessel of some kind, that would have a previous hydrostatic [1406] test of say 800 to a thousand pounds.

Q. Is that its equivalent in hydrostatic pounds?

A. That is the approximate equivalent for determining porous condition.

Q. Assume that leaks in a cooler are indicated by an air test under water of 160 pounds disclosed by air bubbles the approximate size of a pen point: in your opinion would it be possible to get salt water through leaks of that size at an operating pressure of 7 pounds? A. No.

Q. Assume that with respect to this same cooler an auxiliary pump is applied capable of delivering 100 pounds pressure: in your opinion could water get through leaks of the size described under those conditions?

(Testimony of Frank E. Blumberg.)

A. I doubt very much if water would get through.

Q. Further assume that when the cooler is assembled a gasket covers the seam where the leaks occurred: what is your opinion as to whether water could get through under those circumstances?

A. My opinion is that water would not get through.

Q. Assume that a Diesel powered vessel leaves Puget Sound; assume that the lubricating oil is cooled through a Harrison type cooler of the type heretofore described; assume that that cooler has leaks at the seam as evidenced by bubbles of air that I have described to you; assume that [1407] that vessel travels for a period of ten days and its history during that period is one of smooth operation; assume that the lubricating oil through the cooler is operated at a pressure of 18 pounds and that the salt water is operated through at a pressure of 7 pounds; assume that ten days after the commencement of the voyage the lubricating oil is changed; and assume that on the following day the helical timing gears of the Diesel engine, operating on a vertical shaft, become galled: could the galling of those gears, in your opinion, be caused by contamination of the lubricating oil resulting from salt water getting through the leaks in the cooler described?

A. My opinion is that salt water would not be the cause of that galling.

(Testimony of Frank E. Blumberg.)

Q. Why not?

A. Because I believe that there would not be—if any salt water did leak through, it would not be enough to cause trouble. I doubt very much if any salt water would leak through.

The Court: Did you consider any information as to how long the gears had been in operation before the first galling was discovered? State yes or no.

The Witness: I don't quite understand the question, Your Honor.

The Court: As I understand it from the evidence, [1408] it tends to show that one day the galling showed up. I think the evidence shows that the gears operated some days before that happened. Then, as I understand it, the evidence tends to show that the oil was changed after the first galling condition was discovered, and another gear was substituted, and then shortly thereafter another galling occurred.

Did you in considering the question of galling or determination of it consider all of those circumstances about previous operation of the gears without galling, and on one day the galling was noticed to have occurred, the gears were changed, and after certain other operations further galling was found?

The Witness: Your Honor, I considered the matter that it had run for approximately ten days and that the oil was changed, and approximately a day later there was galling of the gears.

(Testimony of Frank E. Blumberg.)

The Court: Do you know which gears with reference to the ones in use during the first ten day period were involved in the galling condition you are now talking about?

The Witness: Yes, sir.

The Court: Which ones?

The Witness: The lower.

The Court: Was it the same gear or different gears [1409] that had been in use during the ten day period?

The Witness: It was the same gear.

Q. Under the conditions described, and calling your attention again to the fact that the vessel operated successfully for ten days with no hint of any trouble in these gears, whereupon the oil was changed and the day following the gears, the lower helical timing gears, became galled: what would you look for as a cause for the galling under those conditions?

A. I would rather look to contamination of the new oil that was put in the engine.

Q. Is there anything else that you would look for? A. Possibly——

Q. I will withdraw the question and give you further facts. Assume the facts that I have just stated; and assume that after the lower helical gears on this vessel became galled the vessel put into port; and that a day or two later a service man or service engineer came aboard the vessel and upon inspecting the same found that the oil had been re-

(Testimony of Frank E. Blumberg.)

moved from the engine; that when he arrived the gears were dismantled and on the deck, the helical timing gears and the vertical shaft which holds them; that he further found the vertical shaft to be bent, upon chucking it in a lathe and found that it was out of true about one-eighth of an inch, according to his estimate; assume that [1410] he had it straightened in the lathe and found it true and reinstalled the same; assume further that he found that the fuel controls on the engine were badly set, requiring the resetting of all of them; assume that he inquired of the vessel's history prior to the galling of the gears and learned from the chief engineer that the engine had been running hot; and assume that the chief engineer indicated to him further that something had been done to the lubricating oil line running to the lower gears which were galled; assume that he found some wear in the thrust bearing of the vertical shaft which is of the roller type but that he considered it insufficient to require replacing it and so reinstalled the same; assume that he further found that the air, water and lubricating oil lines on the engine were badly kinked; assume that he didn't like the looks of the rest of the engine; assume that he found that the control station wouldn't work properly; assume that he wanted to take out the nozzles but he didn't have the facilities; and assume that he felt that there was some further deficiency of the engine but that the only thing he did was to replace the galled

(Testimony of Frank E. Blumberg.)

timing gears and to cause new oil to be placed in the system; and assume that in installing the lower timing gears he was satisfied that they were in proper alignment from the tests that he made; and assume further he installed an additional lubricating oil line to the lower [1411] vertical gears in addition to the line already existing: do you have any opinion as to what could have been the cause of the galling of the gears prior to the vessel's putting into port?

Mr. Howard: If counsel wants to add an additional assumption that the lubricating oil that was in the engine had been flushed out and the lubricating oil system had been flushed out prior to the installation of the second set of gears, I will offer no objection to the hypothetical question.

The Court: Does the evidence so tend to show?

Mr. Hokanson: Only on a hearsay basis, Your Honor.

The Court: What is the evidence before the Court upon whatever basis it is?

Mr. Hokanson: My recollection is not clear as to whether the Court sustained my objection when Mr. Cross testified he had no personal knowledge of the flushing out of the system.

Mr. Howard: My recollection, if the Court please, is that that came in in Mr. Cross' deposition to the effect that he had been informed by the chief engineer that the system had been flushed out and that he would not have allowed new oil to go into the system unless it had been flushed out.

(Testimony of Frank E. Blumberg.)

I want to shorten this. If counsel will add that assumption that the system had been flushed out, I will offer no objection to the hypothetical question.

Mr. Hokanson: I will agree that the lubricating oil had been removed, but as to the method of flushing out, I think that assumption cannot be made because the witness testified he does not know of his own knowledge what method was employed. That was brought out on the examination and I can demonstrate it by the deposition.

The Court: Are you going to refer to something you think will cause counsel to agree upon proper form of statement of the condition?

Mr. Howard: On page 44 of the Cross-deposition, Line 3:

“Q. You did not ascertain what had been done to flush that oil out of the system?

A. Yes, I did.

Q. And foreign particles?

A. Yes, I did. I didn't ascertain how they got it out. I made certain that it had been ashed out. The foreman had some laborer remove the——

Q. I didn't understand your last answer.”

* * *

“Q. By Mr. Hokanson): Was it at your request that the whole system was flushed out?

A. It had been done prior to the time of my arrival.” [1413]

The Court: Would it not be proper to submit

(Testimony of Frank E. Blumberg.)

the condition that the system had been flushed out by some——

Mr. Hokanson: One further question:

“Q. So you don’t know what actually was done by way of washing it out of your own knowledge?

A. No, only that when I got on board it was clean.

Q. To the extent that you examined the engine it was clean? A. That is correct.

Q. Did you inspect all of the lubricating oil lines that serve the entire engine?

A. No, I did not.”

The Court: Would it not be proper to add to the question, “assuming that the system had been flushed out by some means”?

Mr. Hokanson: With the qualification that the service man did not inspect the lubricating oil lines personally to determine the extent to which they were cleaned.

The Court: Now restate the additional condition.

Q. Assume further that with respect to the lubricating oil that had been in the system prior to the vessel’s arrival in port, that the same had been flushed out prior to the service man’s arrival, but that the method used was unknown to the service man and that he did not personnel [1414] inspect all of the lubricating oil lines that lubricate the engine: are you now able to state an opinion as to what could have caused the galling of those gears?

(Testimony of Frank E. Blumberg.)

The Court: State yes or no.

A. Yes, I am able to state an opinion.

Q. What is that opinion?

A. The opinion is that there was something radically wrong with this engine. There are indications of it by the vertical shaft having been bent, requiring straightening; the pipes mentioned were badly kinked; the engine had overheated.

Now, those are indications of something radically wrong, especially the overheating of the engine. This may have been a local overheating causing the bearings of the camshaft to come out of line, putting an extra load on the gears. Because of the heavy bearing loads with this out of line, there may have been a clogging somewhere in the oil lines to the helical gears that would result in a lack of quantity of lubricating oil to the gears.

Q. What effect would kinked lines have?

A. Kinked lines could restrict the flow of the liquid content in them, or the fluid.

Q. Assume these further facts; assume that the vertical shaft drives the fuel pump; assume that prior to the galling of the gears on October 21 the engine was [1415] stopped for 50 minutes to re-pack the fuel pump, and assume that on October 24 a tightening of the packing installed in the fuel pump——

Mr. Howard: I don't understand this last assumption, "a tightening of the packing."

Mr. Hokanson: A tightening of the packing in

(Testimony of Frank E. Blumberg.)

the fuel pump was done: in your opinion, would that have any relationship to the galling of these gears?

Mr. Howard: If you know.

A. Yes, it would have some relationship to it. That would increase the load on the gears.

Q. Could you explain that further?

A. The packing gland on the fuel pump—and I am assuming that the fuel pump is driven through the helical timing gears—that tightening, if tightened too much, will cause the shaft in the fuel pump to be restrained considerably, introducing a friction at that point and requiring a much higher load on the gears to drive the pump.

Q. Under the assumptions that I have given you concerning what was found by the service man; and assuming that he merely replaced the lower helical gears without causing any further checks to be made with respect to this engine other than ascertaining that the alignment of the gears was proper at the time of the installation: do you have an opinion concerning the practice that he followed?

Mr. Howard: I object to that question, if the Court please, in that it doesn't contain assumptions that should be in a hypothetical question based upon the evidence in the record as to the other checks and tests that were made by service engineer Cross at the time he arrived at Manzanillo and made an inspection on board the vessel.

(Testimony of Frank E. Blumberg.)

Mr. Hokanson: May it please Your Honor, I have no recollection of any further tests other than those I have included in the assumptions contained in the question.

The Court: Read the question.

(Last question read by reporter.)

Mr. Howard: I am referring to pages 6, 7 and 8 of the Cross-deposition. Without reading all of that, I will try to check the points I am referring to.

“Q. Did you make any further inspection of the engine other than what you have already mentioned on your first inspection?”

The first inspection, if the Court please, refers to the gears and vertical shaft.

“A. Not on the first inspection, no.

Q. Later did you make a further inspection of the engine to determine its condition?

A. Yes, I took the vertical shaft ashore” . . .

Then he describes the conditions he found the vertical shaft to be in.

“Q. What additional work did you do about the engine?

A. You mean in all respects, repair work?

Q. Yes.

A. Well, I checked the alignment of the gears when I installed them.

Q. Which gears please?

A. Both the upper and the lower.

Q. What did you find as to the condition of the alignment?

(Testimony of Frank E. Blumberg.)

A. Very good. I checked the fuel controls. They were pretty badly set. I had to reset all the fuel controls.

Q. Will you go ahead please?

A. Installed a new oil line to the lower vertical shaft gears.

* * *

Q. Was additional work done on the vessel, on the maintenance of the engine by you?

A. What do you mean by additional work?

Q. I just want to be sure that you have testified for the record as to all of the work that you performed on the main engine?

A. Yes, that was done by me. There may be some [1418] items I missed, small items that I don't recall right now."

I am certain that in this witness' testimony he testified he checked thrust bearings, main bearings and other parts at the time the ship was in Manzanillo. It is probably in the cross-examination.

Mr. Hokanson: Your Honor, I have examined it, I think, reasonably carefully, and I confess that I omitted to point out in the assumptions that the fuel controls were reset and that prior to the departure the vessel was retimed, but beyond that I think I have included essentially everything that was done, including, if the Court please, the fact with respect to the thrust bearing.

The Court: Including the material mentioned by Mr. Howard just now?

(Testimony of Frank E. Blumberg.)

Mr. Hokanson: Yes.

The Court: Will you make the addition which you indicate should be made?

Mr. Hokanson: Assume in addition to the facts that have already been given you that the service man reset the fuel controls and checked the timing of the engine, or caused the engine to be retimed before leaving: what is your opinion—or do you have an opinion concerning the practice he followed? [1419]

A. Yes, I have an opinion.

Q. What is that opinion?

The Court: The objection is overruled.

A. I believe that he did not follow up the cause of this overheating of the engine as he should have done. Overheating of a Diesel engine is a serious thing, and the cause of that overheating may have been the cause of the failure of the gears, or the overheating itself may have caused the failure of the gears.

Also, the thrust bearing being worn may have caused a vibration, a vertical vibration in this vertical shaft which would have caused unequal loading on the gear teeth, some of the teeth getting excessive loads and other teeth getting very light loads.

Q. Assume that after the gears were installed the engine was timed for approximately two or two and a half days, and upon the completion of the timing the vessel was run full ahead and it was then discovered that the valves were hitting the

(Testimony of Frank E. Blumberg.)

pistons: do you have any opinion as to what the effect of that would have been upon the gears?

A. The serviceman——

Mr. Howard: Answer yes or no, if you can.

A. Yes, I have an opinion.

Q. Would you state what it is?

A. A serviceman, according to my experience, would [1420] time the engine according to the marks on the flywheel at the factory, following factory practice, and if the engine was in otherwise good condition, the valves would not hit the pistons; but if they hit the pistons it indicates that there was some wear or some maladjustment regarding the cams or the rocker shafts or bearings around the valves or the valve-operating mechanism.

Q. In timing an engine, can it be ascertained on a Diesel engine before running the vessel on trial whether the valves are hitting the pistons?

Mr. Howard: Are you speaking of any particular Diesel engine, counsel?

Q. Let's assume a six cylinder, 560 horsepower four cycle Union Diesel engine.

A. Before running the engine—if the valves struck the pistons heavily it could be determined before operating the engines, but if there is only a very light interference, the engines would have to be operated to determine that.

Q. Assume that after the timing had been completed the vessel then put out to sea and after being under way for 29 hours, the gears were checked by

(Testimony of Frank E. Blumberg.)

the service man and found to be in satisfactory condition; but that at that time it was determined that notwithstanding that the pyrometer readings were normal the engine was overheating from a cause unknown, and that this occurred at or about 9 p.m. on [1421] November 4, 1948; and that the chief engineer, contrary to the directions of the service man, then caused an auxiliary pump capable of delivering a pressure of 100 pounds to be put in operation through the oil cooler and heat exchangers; and assume further that approximately seven hours later the service man was notified of a noise in the engine and upon arriving in the engineroom determined that the gears again were affected: do you have any opinion as to what might have been the cause of the second galling of the gears?

A. Yes, I do.

Mr. Howard: I object to that question on the ground that I submit to Your Honor there is no evidence in the record that an auxiliary pump was put into operation on November 4 and hooked up to the oil cooler system. I don't deny there is evidence in the record that an auxiliary fire pump capable of producing 100 pounds pressure was put into operation, but I submit to Your Honor there is no testimony it was hooked up to the oil cooler system.

Mr. Hokanson: May it please the Court, I am completely satisfied that there is evidence in this record, both in Mr. Newell's deposition that the

(Testimony of Frank E. Blumberg.)

pump in question was hooked up to the heat exchangers and cooler; and I am satisfied that it is clear from Mr. [1422] Cross' testimony that that is the case. I don't want to take the Court's time by searching further for the particular places, except that inferentially, at least, on page 75 of Mr. Cross' deposition——

The Court: Are you abandoning the question, or what are you proposing?

Mr. Hokanson: My statement is that the question includes proper assumptions. I am merely calling to the Court's attention my recollection of what the evidence shows.

The Court: Will you cite in the record, Mr. Howard, what it is your objection is based on?

Mr. Howard: If the Court please, the fact that there is nothing in the record showing that it was hooked up to the oil cooler.

The Court: Point out the place where those two matters are given, and this is the last supposititious question. I think we have had enough time indulged in the trial of this case, and I ask counsel on both sides to shorten it.

Questions of this nature propounded to an expert witness should have been worked out in the absence of the Court on an accurate basis. You should be able to facilitate these inquiries.

Mr. Hokanson: On page 75, Your Honor:

“Q. Did you make any suggestion one way or the other to the chief engineer as to the use of the

(Testimony of Frank E. Blumberg.)

standby pump after the difficulty was reported to you at four a.m. on November 5th?

* * *

A. I don't believe I did after the trouble. After they had the trouble with the gears there was no necessity of doing it. The engine was running so slow there was no trouble at all keeping it cool."

That, Your Honor, I submit has reference to the cooling device for the engine, and the pump in question is tied in.

"Q. What is your recollection as to the suggestion that was made?"

——referring now to the use of this pump——

* * *

"A. I believe I recommended it not be used.

Q. (By Mr. Howard): What would be the basis of that, Mr. Cross?

A. It is not a good idea to overcome your pressures. There are times when it has to be done. I don't like to do it when the regular pump is fully capable of maintaining the pressures and temperatures that were recommended by the factory without the use of auxiliary equipment." [1424]

The Court: The point I wish to make in this connection is this: that you run a great risk of putting your interpretation upon the testimony. You should state the condition in the words of the witness and not in the effect which you put upon

(Testimony of Frank E. Blumberg.)

that condition. That is the trouble with your question.

Mr. Hokanson: I didn't anticipate that there would be any question about the fact that there is evidence in the record as to the hook up of this pump. However, in order to expedite this proceeding, I will eliminate from the question propounded to Mr. Blumberg the assumption that the pump was put into operation at that time, and ask him whether he has an opinion as to what was the cause of the second galling of the gears?

Mr. Howard: As I understand your question, there is no assumption propounded to this witness in the question that any auxiliary pump was placed in operation aboard the vessel prior to the second breakdown and galling of the gears?

Mr. Hokanson: For purposes of this question, that is correct.

Mr. Howard: Not other objection.

The Court: What is the form of the termination of the question addressed to the witness?

Mr. Hokanson: It is whether he has an opinion.

The Court: State yes or no.

A. Yes, I have.

Q. What is that opinion?

A. My opinion is that there was still something radically wrong with the engine, either parts badly worn or parts out of adjustment somewhere that were not examined. The matter of overheating being so serious, I believe that that vessel should not

(Testimony of Frank E. Blumberg.)

have been put to sea until the cause of that overheating was found and corrected.

Q. Showing you what is known in this proceeding as Cross Libelant's A-20, which purports to be an analysis of lubricating oil, I will ask you first whether you are acquainted with the requirements of viscosity and percentages of foreign matter in lubricating oils in connection with the lubrication of Diesel engines?

A. Yes, I am acquainted with them.

Q. Would you examine the analysis and state whether you have an opinion as to whether the oil in that case would be of sufficient viscosity and be otherwise proper for the lubrication of a six cylinder Diesel engine?

A. I note the viscosity of 545 with the oil at 100° Fahrenheit. That appears a little bit high, but should be satisfactory.

The Court: High in what characteristic?

The Witness: High in this, that a high number in [1426] viscosity means a thick oil, one that is difficult to flow. A low number of viscosity means one that is easy to flow. This oil would be what is often called a heavy oil, not referring to weight, but referring to its ability to flow through an opening or through a pipe. This is a little heavy, but should be satisfactory.

Q. Do you note the percentage of water shown?

A. Yes.

Q. What is your opinion with respect to its

(Testimony of Frank E. Blumberg.)

effect upon the oil as a lubricating agent for a Diesel engine?

A. That should have little effect on the lubrication of a Diesel engine for a period of many days or weeks provided the engine is kept operating all the time.

Q. Assuming that the galling of the timing gears of this vessel as heretofore described occurred; assuming that no other gears or bearings of the main engine lubricated by the same oil were affected; and assume that contaminated lubricating oil is traced as the cause of the galling of those gears: in your opinion, would it be possible to have a galling of those gears without affecting other parts?

A. Yes, I think I can answer that.

Q. Do you have an opinion?

The Court: Answer counsel's question.

A. Yes, I have an opinion.

Q. Will you state what it is? [1427]

A. The galling of the timing gears without any—at the same time there was no effect on the crankshaft bearings indicates that there was nothing wrong with the lubricating fluid.

Q. Why?

A. Because if there was foreign matter in the lubricating fluid, some abrasive material, the bearings of the crankshaft and the crank pins would have become scored; that is, little grooves around it caused by your abrasive material.

(Testimony of Frank E. Blumberg.)

The Court: Did the damage to the gears have the appearance of such abrasive action?

The Witness: I have no knowledge as to whether the damage to the gears showed abrasive action or not.

Q. If you know, what is the practice in shipyards insofar as the responsibility of the shipyard is concerned for repair work done to the main engine of a vessel under repair in the yard where the work done on the main engine is under the supervision and direction of the chief engineer of the vessel, assuming that trouble later develops on that engine?

Mr. Howard: I object to that question on the ground that it is asking the witness to state an opinion as to something which I submit is within the province of Your Honor to decide.

The Court: In view of the relationship of the witness to the facts and occurrences involved in this case, the objection is sustained.

Mr. Hokanson: No further questions.

Cross-Examination

By Mr. Howard:

Q. When it comes to the cleaning of a cooler such as was discussed with you in your earlier testimony, isn't it a fact that the condition of the cooler prior to the testing would have considerable bearing on the extent of cleaning necessary? In other words, if you had a clean cooler, a relatively clean cooler,

(Testimony of Frank E. Blumberg.)

it wouldn't require as much of a cleaning as a cooler that had accumulated considerable dirt or scale, isn't that true? A. Yes, that is true.

Q. If you had a cooler with considerable dirt and scale, from your experience you would see that that got more of a cleaning than a relatively clean cooler?

A. The relatively dirty cleaner would require a little longer time, but the outer parts, the first parts of the dirt on that cooler would be eliminated quite rapidly. Most of the cleaning of the cooler is to get the part that adheres closely to the elements, the surfaces of the cooler.

Q. Are you speaking of the salt water side?

A. I am speaking of primarily the oil side, but it is [1429] true to some extent on the salt water side also.

Q. Do you get scale on the salt water side of a lubricating oil cooler over a period of time?

A. Yes.

Q. Considerable scale accumulates there during circulation of salt water, does it not?

A. Yes, it can.

Q. If all of that scale and other dirt that you have spoken about that would accumulate primarily on the lubricating oil side is not removed, then what would you say as to the effectiveness of a hydrostatic test at 50 pounds pressure?

A. I want to get the question straight.

Q. Read the question, please.

(Last question read by reporter.)

(Testimony of Frank E. Blumberg.)

Mr. Hokanson: May it please the Court, while the scope of the latitude allowed in cross-examination is greater, to be sure, that in direct, this being in the nature of a hypothetical question I assume the same rules apply concerning the conditions or assumptions to be made in the question.

The Court: That is a correct assumption.

Mr. Hokanson: Therefore, I submit the question is improper for the reason that there is no evidence in this record concerning the amount of dirt or scale on [1430] this cooler, if reference is now made to the time prior to its cleaning at Winslow. There is evidence concerning the extent of the scale prior to the cleaning of the cooler at Long Beach.

Mr. Howard: Your Honor, I am asking the witness to make an assumption that there was scale on the salt water side of the cooler and dirt on the lubricating oil side, as he said would accumulate over a period of time.

The Court: Do you put it in that form?

Mr. Howard: Yes, Your Honor.

Q. If you will consider it with that assumption, as you have testified would accumulate over a period of time, make that assumption that such a condition would exist?

A. Assuming that——

The Court: Answer directly without discoursing statements.

A. Yes, scale left after the cleaning would have some effect upon the hydrostatic test for tightness.

(Testimony of Frank E. Blumberg.)

Q. Did you conclude your answer to that question?

A. My answer was that scale left in there after a cleaning process would have some effect upon the hydrostatic test.

Q. Have you seen this particular model Harrison cooler opened up in your experience with the shipyards? [1431]

A. I can't identify it by that number, although I am——

Q. In your previous examination, an assumption has been made that the gasket on the oil side would cover the soldered seams that connect the core of the cooler with the housing. Do you know whether that gasket does go over the seam or not?

A. I am quite certain the gasket does go over the seam.

Q. You are quite certain it does?

A. I am quite certain it does, yes, sir.

Q. It is on the basis of that assumption that you express the opinion that no water could leak through those seams and contaminate the lube oil, assuming that there were leaks in the seam?

A. It was on that basis that I said no water would leak through.

Q. If it were shown that the gasket did not cover that soldered seam, then would your opinion be different?

A. My opinion would be modified only slightly, that there may be a small leak through there. As

(Testimony of Frank E. Blumberg.)

I recall in my previous testimony, that was under the assumed condition of a pump capable of delivering 100 pounds pressure was connected to that line.

Q. And you are assuming leaks in the soldered seams?

A. I am assuming that there are leaks there, yes, sir. [1432]

Q. In a subsequent answer, you expressed your opinion that there was something radically wrong with the engine that would cause the galling of the gears, and you mentioned as one of the bases for that opinion that there was clogging of the oil lines to the gears, do you recall that?

A. Yes, I recall that.

Q. Would your opinion be different if it were demonstrated that an additional oil line had been hooked up to those particular gears before the breakdown?

A. That would depend upon where that additional oil line was connected. There may have been a clogging of that oil line as originally installed and then the new oil line connected at some point downstream from that clogged location.

Q. If it were shown that the new oil line were not in any way connected with the old oil line, then would your opinion be different?

A. Yes, my opinion would be different, because then it should get proper lubrication.

Q. In the same answer, you mentioned as one

(Testimony of Frank E. Blumberg.)

of the factors affecting your opinion the fact that the engine was overheated. Isn't it a fact that that overheating might have been caused by dirty and scaly heat exchangers cooling the fresh water that went through the cylinder jackets?

A. While that is possible, it is more probable due to the general condition of the engine, that it was due to some [1433] maladjustment within the engine.

Q. If the heat exchangers where the salt water cools the fresh water, which in turn cools the cylinder jackets, are not functioning properly, wouldn't that be one of the first things you would look for as an explanation of the overheating of the engine?

A. That would be one of the things to look for, yes, sir.

Q. If the heat exchangers that cool the fresh water are dirty and were not efficiently operating, then that would be a likely cause and explanation of the overheating of the engine?

A. That is a possible cause of the overheating of the engine.

Q. It is one of the most likely, isn't it?

A. I would say not one of the most likely, but it is a possible cause.

Q. Now, as to these valves hitting the pistons—

The Court: The Court at this time will indulge five more minutes of examination for all of the .

(Testimony of Frank E. Blumberg.)

remainder of the examination that is to be done today.

Mr. Howard: Very well, Your Honor.

Mr. Hokanson: Is that with the reservation that I have the right——

The Court: You will have to recall the witness some other day, not today. [1434]

Mr. Howard: I will waive further cross-examination of this witness.

The Court: Those connected with this case are excused until Monday morning, the 18th day of April, at 10:30 o'clock in the forenoon.

I may not be able to begin this case at that time, but I will do all I can to effect a recommencement of the proceedings in this case at that hour.

(At 12:10 o'clock p.m., Saturday, April 16, 1949, proceedings adjourned until 10:30 o'clock a.m., Monday, April 18, 1949.)

April 18, 1949, 11:15 o'clock, a.m.

Mr. Howard: I have no further questions on cross-examination of this witness.

The Court: You may proceed with the redirect examination.

Redirect Examination

By Mr. Hokanson:

Q. Mr. Blumberg, with respect to the matter of heat [1435] exchangers being the cause of the overheating of the engine, assume that a heat exchanger

(Testimony of Frank E. Blumberg.)

which is used for the purpose of cooling fresh water which is circulated in the jackets of the cylinders had certain leaks: would that, in your opinion, cause an increase in the jacket water temperature?

A. No, it could not.

Q. Why not?

A. However, that would depend upon the amount of the leak. If the salt water leaked into the fresh water, the fresh water system would have an increase in quantity and that would show up by an increase in the expansion tank, which is located on top of the engine, and if there is an appreciable amount, that expansion tank would overflow.

If the fresh water leaked into the salt water, there would be a decrease in the water in the expansion tank, and after a period of time if it wasn't observed—that is, if no one observed the expansion tank—there might be sufficient quantity leak out of the fresh water system to effect the cooling. That, however, would take considerable time and it should be detected earlier than that.

Q. Is it part of engineering procedure to ascertain the amount of fresh water you have for jacket water cooling?

A. Yes, the engineering officer on watch should observe that at frequent intervals.

Q. Assume, Mr. Blumberg, that a heat exchanger in the [1436] same condition as the lubricating oil cooler; and assume that the lubricating oil cooler had at all times maintained proper tempera-

(Testimony of Frank E. Blumberg.)

ture of the lubricating oil: in your opinion, could the condition of the heat exchangers cause an increase in the temperature of the jacket water?

A. No, it could not cause that.

Q. Can you at sea determine the condition of a heat exchanger or lubricating oil cooler?

Mr. Howard: Of the type on the *Urania*, counsel?

Mr. Hokanson: Yes.

The Court: Specify in your question what condition you are referring to.

Q. Is it possible through inspection to determine the existence of leaks on coolers of the Harrison type at sea?

A. Leaks can be detected in two ways. One is by a loss or a gain in the liquid passing through the cooler. That other would be—I would like to modify my answer. There would only be one way that I can think of, by a loss or gain of fluids.

Q. By opening up the exchanger, could it be determined?

A. May I ask for a clarification of the question? Are we—that is determining whether it is leaking or not?

Q. Yes.

A. Just by opening up the heat exchanger, it would be difficult to determine whether it was leaking or not. [1437]

Q. But by the application of tests could it be determined?

(Testimony of Frank E. Blumberg.)

The Court: That involves further questions as to what tests you refer to.

Q. How would an engineer determine that, if he suspected a leak in a cooler?

Mr. Howard: I object to this line of questioning as improper redirect examination.

The Court: I am inclined to think the same.

Mr. Hokanson: I have no further questions.

Recross-Examination

By Mr. Howard:

Q. Assume that your fresh water heat exchanger was scaly on the salt water side, or contained dirt or other foreign matters, wouldn't that affect the efficiency of the salt water cooling?

A. Yes, that would affect the efficiency of it.

Q. If you had a dirty and scaly cooler, that might explain the overheating of your engine, would it not?

Mr. Hokanson: I am going to object to that. There is no evidence in the record whatever of the fact that there was a dirty exchanger in this case.

The Court: It is cross-examination. The objection is overruled. [1438]

Q. Assuming that the fresh water heat exchangers were dirty or contained scale, boiler scale, would that not affect the efficiency of your heat exchanger as a cooler?

Mr. Hokanson: Same objection.

The Court: Overruled.

(Testimony of Frank E. Blumberg.)

A. It would affect the efficiency of it in this manner, that if the heat exchanger became sufficiently clogged with scale or dirt, then it would cause the engine to overheat. However, such a condition could be detected by observing the proper gauges.

Mr. Howard: I have no further questions.

Mr. Hokanson: By gauges, you mean the thermometer on the core of the heat exchanger?

The Witness: I refer principally to pressure gauges.

Mr. Hokanson: No further questions.

The Court: You may step down.

(Witness excused.)

The Court: Call the next witness.

Mr. Hokanson: Mr. Amdahl. [1439]

ALFRED AMDAHL

called as a witness by and on behalf of libelants, having been first duly sworn, was examined and testified as follows:

Direct Examination

By Mr. Hokanson:

Q. State your name, please?

A. Alfred Amdahl.

Q. Where do you live?

A. I live in Winslow.

Q. What is your occupation?

A. Electrician, journeyman electrician.

Q. For whom do you work?

(Testimony of Alfred Amdahl.)

A. At present, the Commercial Ship Repair at Winslow.

Q. How long have you been an electrician?

A. Since 1937.

Q. What experience have you had as an electrician? Where did you get your training?

A. I went to a trade school at Chicago, Coyne Electric in Chicago.

Q. When was that?

A. That was in the fall of 1937. I came out in the early summer in 1938, I came out of school.

Q. What did you do after completion of that training?

A. You mean what type of work?

Q. Yes.

A. I worked as a wire man in homes, wiring homes, and also installing wind chargers in the Middle West; worked out here at the Coast with a power plant on the Columbia River for about two and a half years; and down in Oregon, Hermiston, Oregon, at the ammunition depot, was there for about a year and a half; and came out here to the Coast in 1942 and went to work with the Winslow Marine Railway, and have been there most of the time since then.

Q. Were you working for the Winslow yard in the months of August, September and October, 1948?

A. Yes.

Q. Do you remember the vessel *Urania*?

A. Yes.

(Testimony of Alfred Amdahl.)

Q. Were you aboard the vessel on her sea trial October 6, 1948? A. Yes, I was.

Q. In what capacity were you aboard?

A. I was in charge of electrical work, to see that everything functioned all right, or any trouble that might develop, being it was a test run.

Q. Did you observe the operation of the tele-motor system? A. Yes, I did. [1441]

Q. Can you state whether it was functioning on that trial? A. Yes, it was in operation.

Q. State how it operated, without describing the system. I want to know whether it operated properly or not.

A. As far as it was brought to my attention, there was no complaints.

The Court: Do you know of anybody on board the ship that day whose business it was to see to it that it did operate properly and determine that fact? Your answer is from your standpoint accurate, but it does not give us any information. Who was on that ship that day whose business it was to see that that telemotor system was operating properly, if you know?

The Witness: Mr. Williams—I don't remember his first name.

The Court: Was it the Mr. Williams who was employed by the owner of the *Urania*?

The Witness: I think he was.

The Court: Did the libelants, the ship repair yard, have anybody on board, an electrician or

(Testimony of Alfred Amdahl.)

anybody else familiar with that business, whose duty it was to make that operate, if you know?

The Witness: Not as an electrician. The captain——

The Court: Obviously this witness does not know [1442] anything about the fact. If you think of something else, you should ask him that.

Mr. Hokanson: I think he misunderstands the question.

Q. What was your purpose aboard the vessel?

A. It was to observe that everything was operating properly.

Q. What phase of the telemotor system was it your function to observe?

A. The electrical end, the motor and whatever electrically was connected with it.

Q. Did you observe it? A. Yes.

Q. For how long a period?

A. Intermittently through the voyage, when we were out.

The Court: Is there anybody who observed it not intermittently but all the time, as he was supposed to do? Do you know of anyone who did it without the necessity of saying that he did it intermittently.

The Witness: No, I don't think so.

Q. You had other duties besides observing the telemotor system, is that right?

A. That is right.

Q. So far as you were concerned, it was func-

(Testimony of Alfred Amdahl.)

tioning properly? A. That is right. [1443]

Q. Had there been any trouble at any time with the telemotor on the sea trial?

A. No, there was no trouble that I recollect.

Q. Was it used at all times in the sea trial, if you know?

A. Well, not being—not standing watch over it all the time, I couldn't say, because I wasn't.

Q. You were there to be called in the event any trouble developed with any electrical part of the system? A. That is right.

Q. Were you called for any trouble?

A. No, not on the telemotor.

The Court: Were you called for any other trouble? I would be interested to know if you were called for anything that was not working right?

A. Well, I think it was kind of late when we come in. I remember we had a few things with some of the running lights, when we put them on.

The Court: Those are the outside lights on the vessel?

The Witness: Yes, sir.

The Court: Was there anything about the engine, the machinery that propels the vessel or assists in navigating the vessel, that showed up wrong and had to be corrected or tests made to see what was wrong, or [1444] anything of that sort?

The Witness: Not as I recollect.

The Court: As you recollect? Have you been on trial runs of so many vessels since the date this

(Testimony of Alfred Amdahl.)

trial run was made that you don't recall it and have them confused in your mind, is that the situation?

The Witness: No.

The Court: What you are saying does not give me any information at all. Proceed.

Q. Was there anything wrong with the ship, to your knowledge, after the trial run was completed?

A. Not as far as I know, no.

Q. Not anything within your personal knowledge?

A. That is right.

Q. Was anything wrong brought to your attention from anyone else?

A. I would like to answer there that on the trial run you may have a little adjustment to do here and there; like we had salt water pumps and the pressure switches on them, sometimes they will need a little calibration or adjustment, but I couldn't say it was really trouble.

Q. In other words, the function of the trial run is to make any minor adjustments or major adjustments that appear?

A. That is right.

Mr. Howard: I object to the question as leading. [1445]

The Court: Overruled.

Mr. Hokanson: I have no further questions.

(Testimony of Alfred Amdahl.)

Cross-Examination

By Mr. Howard:

Q. What was the nature of the check or operation you yourself made of the functioning of the telemotor system on the trial trip?

A. I watched the operation of the electric motor that drives, and the contactors.

Q. Where were you at the time?

A. Watching the operation.

Q. What part of the ship?

A. In the after steering—or where your quadrant is, the after end of the ship.

Q. How long were you down there during the trial?

A. I would say the time to observe it—maybe 15 or 20 minutes at a time, when I did observe those things, the operation of them.

Q. Will you go ahead now as to the nature of the check or operation you made in the after steering?

A. Like I say, it was to watch the motor when you steer, to see whether it does any sparking or functions properly that way.

Q. What did you observe at that time as to the functioning?

A. It worked very good.

Q. Was the wheel being turned one way or the other at the time, or was she on a steady course?

A. No, it was not turned from left rudder to right rudder, not steady.

Q. Who was with you at this time?

(Testimony of Alfred Amdahl.)

A. That I wouldn't say. I may have been alone. There was another electrician assisting me and we covered the ship from the engineroom. Whether he was with me or I was alone I couldn't say.

Q. Did you make any adjustment whatever in the telemotor engine during the trial trip?

A. No.

Q. Or after your return from the trial trip?

A. No.

Q. Do you know of your own personal knowledge whether anyone else connected with Commercial Ship Repair made any adjustment or corrective repair to the telemotor system during the course of the trial, to your knowledge?

A. I don't think so.

Q. Or after return of the vessel from the trial trip? A. No.

Mr. Howard: No further questions.

Mr. Hokanson: No further questions. [1447]

The Court: You may step down.

(Witness excused.)

HERMAN SANWICK

called as a witness by and on behalf of libelants, having been first duly sworn, was examined and testified as follows:

Direct Examination

By Mr. Hokanson:

Q. State your full name, please.

A. Herman Sanwick.

(Testimony of Herman Sanwick.)

Q. Where do you live?

A. 1306 Queen Anne Avenue.

Q. What is your occupation?

A. Marine engineer.

Q. How long have you been a marine engineer?

A. Since 1914.

Q. What licenses do you hold?

A. Unlimited license for Diesel internal combustion engines.

Q. Since how long?

A. Since 1918, my first license.

Q. How long have you been going to sea?

A. Since that time. [1448]

Q. Would you state what your experience has been as an engineer in the past 20 years?

A. I have been operating mostly in Alaska, on sea voyages to Alaska for different companies, and since 1923 I started with the Interior Department as chief engineer for them on the Boxer, and later on the North Star. We made many voyages to Alaska, up to the North Arctic, Point Barrow and places of that kind.

In 1939, 1940 and 1941 the United States Antarctic Expedition was organized and at that time I was chief engineer on the flagship of that expedition in command of Admiral Richard E. Byrd, and in 1941 we turned the ship over to the Navy in the Boston Navy Yard.

Q. After you turned the ship over to the Navy Yard, what did you do?

(Testimony of Herman Sanwick.)

A. I came back to Seattle, and about the first of 1942, approximately January, I went to work for the Winslow Marine Shipyard. They had a contract to build 17 Navy ships for the Navy. They were Diesel powered, electric drive and so on, and I stayed with that job throughout the completion of the contract as their chief engineer as regards testing this equipment and checking all of the ships and making trial runs and shake down cruises for the Navy before those ships were accepted by the Navy, and I was on that job until the last part of 1945. [1449]

Q. How many Diesel Navy vessels did you test during that period? A. 17.

Q. What are you doing at the present time?

A. At the present time I am working for the Commercial Ship Repair. They have a contract to convert and build a new fireboat for the city of Seattle, and I am in charge of that job for the Commercial Ship Repair as regards to construction and machinery installation, and later on the trials and tests of that ship.

Q. What type of vessel is that?

A. It is a Diesel powered, electric drive ship, approximately 3000 horsepower, with the three different engines that are going to be installed in this ship.

Q. You were not working at Winslow during August, September and October of 1948, were you?

(Testimony of Herman Sanwick.)

A. No, I was not.

Q. When did you first go over there?

A. February 1, 1949.

The Court: Where did you go and what did you begin to do at that time?

The Witness: I went to work in charge of this fireboat for the Commercial Ship Repair.

The Court: Do you mean the Duwamish?

The Witness: The Duwamish, yes, sir. [1450]

Q. In the course of your experience as a Diesel engineer, have you had occasion to test heat exchangers or coolers?

A. Yes, I have, a number of times.

Mr. Howard: At this time I would like to enter an objection to any interrogation of this witness as an expert witness on the ground that he has testified he was formerly employed for a period of several years by the Commercial Ship Repair and is now employed by the Commercial Ship Repair, and he has also testified that he was not employed by the Commercial Ship Repair in the months in which the Tanker Urania was in their yard; hence I submit to Your Honor that he is an employee of a party to this cause, not having any direct personal knowledge of the conditions of this ship, that he would hardly qualify as an expert witness because of the obvious bias that he would have by reason of his past employment and present employment.

The Court: Did you consider that in connection with the authorities, as to whether or not under the

(Testimony of Herman Sanwick.)

authorities it is competent to call such a witness as an expert?

Mr. Hokanson: May it please Your Honor, Mr. Howard has inadvertently misstated this witness' history when he said he was formerly employed by Commercial Ship Repair. [1451]

The Court: It was the Winslow Marine Company?

Mr. Howard: I beg your pardon, I should have said the Winslow Marine.

Mr. Hokanson: Which is the predecessor in interest of the present company, Your Honor, and had no connection here. With respect to the objection Mr. Howard makes, an expert is an expert irrespective of his employment. Obviously, any expert witness is called by one party or the other; to that extent, his bias or prejudice is a matter for the Court to determine.

The Court: Do you have any law?

Mr. Hokanson: I have no authorities in answer to it, but I would submit there is no rule of law, to my knowledge, which would prohibit a man from testifying as an expert merely because he is employed by a party to the action.

The Court: Does either side have any law, in your trial brief or otherwise?

Mr. Howard: I haven't, Your Honor.

Mr. Hokanson: No, Your Honor.

The Court: The objection is overruled.

Q. Do you recall the last question?

(Testimony of Herman Sanwick.)

A. Yes.

Q. In that connection, can you state what the practice is with respect to the pressure test to be applied in testing [1452] a heat exchanger in ship-yards? What factors are taken into account in determining the amount of pressure?

Mr. Howard: Are you asking the question generally or as to any particular type of heat exchangers?

Mr. Hokanson: I am asking it generally about heat exchangers.

A. The pressure required would be two times the working pressure, whatever that heat exchanger was used for. That is on the new installation. On a used installation, after it has been in operation, Coast Guard inspection is one and a half times that working pressure.

Q. You have reference to the highest working pressure of a unit? A. Yes.

Q. Assuming that a heat exchanger, a used heat exchanger or cooler, has a working pressure of 18 pounds on the lubricating oil side and 7 pounds on the salt water side: what in your opinion would be an adequate hydrostatic test?

A. Two times 18.

Q. Would 50 pounds hydrostatic test be an adequate test, in your opinion?

A. Yes, it would.

Q. In your experience with marine vessels, can you state whether it is possible for leaks to develop

(Testimony of Herman Sanwick.)

in [1453] soldered seams of heat exchangers on a voyage?

A. That is possible.

Q. What might cause it?

A. That would be hard to state. It might be a defect in the solder, and break loose.

Q. Would vibration have any effect on it?

A. I could.

Q. Assume that a 560 horsepower six cylinder Diesel engine, a vessel powered by such an engine, leaves Puget Sound on October 15 and according to its log travels a period of ten days down the Coast approximately 2000 miles; and that during that period its operation is normal and efficient; and that on the 10th day of its voyage the lubricating oil is changed; assume that on the following day the lower helical timing gears of that Diesel engine become galled; assume further that such a vessel when it started out had leaks in its lubricating oil cooler; assume further that the pressure on that cooler was 18 pounds on the oil side, 7 pounds on the water side; assume further that no auxiliary pumps of any kind were used during that voyage: do you have an opinion as to whether that galling could be caused by lubricating oil contaminated by sea water?

The Court: The answer should be yes or no.

The Witness: I have an opinion, yes. [1454]

Q. What is your opinion?

A. My opinion would be that if the oil were contaminated with sea water or dirt, that before the

(Testimony of Herman Sanwick.)

galling of these gears happened there would be trouble showing up in your crank bearings, journal bearings and other working parts of the engine before the timing gears were damaged to the extent that they were galled.

Q. Assume that there was no damage to those other bearings: would it be possible, in your opinion, for the galling to be caused by the contamination of the oil by sea water? A. No.

Q. Why not?

A. For the reason that no other part of the engine—as I said, crank bearings and journals and those working parts would give you trouble and show up trouble before timing gears would show up trouble because of contamination in the oil.

The Court: What is it that causes you to think that those would be damaged first? .

The Witness: For the reason that crank bearings work under your oil pressure. They are a friction bearing and they are the ones that are driving that crankshaft around and delivering the power to the crankshaft, and the minute oil becomes contaminated to [1455] any degree, the lubricating quality in that oil is broken down, and when that lubricating quality is broken down, the film between the crank bearing itself and the steel crankshaft—the two come in direct contact, and when they come in direct contact, they build up frictional heat to such an extent that you would certainly, or very shortly, burn your crank bearing out.

(Testimony of Herman Sanwick.)

The Court: So far as anything you have said, you might have the same condition in the gears. Perhaps you would not, but so far as anything you have said up to this time, you might also have the same situation in the helical gears.

Q. Assume that the helical gears are lubricated by the same oil—I assume you included that in your answer? A. Yes.

Q. And assume further that during this period the temperature of the lubricating oil remained relatively constant; assume further that prior to the galling of the helical timing gears the main bearing temperature did not vary, did not exceed 100° and varied between 90° and 100°: what further observation do you have, if you have an observation to make, with respect to the cause of the galling of those gears?

A. The only comment I could make on that would be a possible mechanical defect that would start that condition [1456] to develop.

Q. Of what character?

A. Possibly a broken tooth or something on that order which would get between the two revolving gears, and that in turn naturally would force the gears apart and possibly bend your vertical shaft or something on that order, and if they were then out of line, of course they would continue to gall and eventually be considerably galled.

The Court: Does either the witness or counsel

(Testimony of Herman Sanwick.)

appreciate that the record does not yet have a response to the Court's last remark?

Mr. Hokanson: Yes, Your Honor.

Q. What happens to lubricating oil with respect to its temperature in a Diesel engine when it becomes contaminated by sea water?

A. If oil becomes contaminated with sea water to any degree, the lubricating qualities of that oil would not be perfect; therefore the engine working parts would build up a certain amount of additional heat and that in turn would heat the lubricating oil because the lubricating oil picks that heat up—in other words, the oil temperature would rise.

Q. If, in the supposititious case that I have stated, you do not have an abnormal temperature on your main bearings according to the log, what does that indicate with respect to the quality of the lubricating oil? [1457]

A. That would indicate the oil was in good lubricating condition.

Q. Could it remain at normal temperature if the lubricating oil had lost its viscosity to the extent that it would gall the timing gears?

A. I do not think so.

The Court: Since counsel has not asked him, I would like to ask him to state again, if you know, the reason why in your theory of the case the main engine bearings would become damaged before the helical gears, if the cause of damage was contamination of the lubricating oil? What you have said

(Testimony of Herman Sanwick.)

discusses a situation with respect to the main bearings, but it does not relate it to the situation of the helical gears.

The Witness: To that I would say that a Diesel engine is so designed that where you have a circulating oil system on an engine that lubricates the entire engine, this lubricating oil going to the crank bearings and the journal bearings would be one of the first sources of trouble, because they are definitely the heaviest working part of that engine; and the timing gears, even though the oil might be slightly contaminated with water, the damage would not indicate there as fast as it would on the crank bearings.

The Court: For what reason? [1458]

The Witness: For the reason that on a crank bearing or a journal bearing you must have practically perfect lubricating oil going through those bearings to keep them from getting hot and burning the babbitt out of those bearings. Babbitt is quite soft.

Q. Assume that the helical timing gears are made of case-hardened steel: does that have any bearing upon your answer to the Court's question?

A. Not necessarily.

The Court: Suppose they were made out of babbitt, or some other soft material: would you expect them to be more likely to be damaged in the same amount as the babbitt in the main bearings?

The Witness: That is difficult to answer, because gears are not made of that type of material.

(Testimony of Herman Sanwick.)

The Court: An expert witness is supposed to be capable of considering any question that is submitted to him. Are you or are you not capable of considering this question?

The Witness: If they were soft the same as the bearings were, yes, then they would be damaged.

Q. The helical gear carries what load on a Diesel engine?

A. They drive the upper camshaft; that has to do with the timing of the valves of the engine, and also the [1459] governor is tied in on that drive.

Q. In terms of comparative load, what is the load of these gears as compared to the main and crank bearings?

A. That would be a mathematical figure which I couldn't quite answer.

Q. Which is the greater?

A. I would say the greater load is on the individual crank bearing.

Q. Could you give us any rough figure in terms of how many times greater?

A. We will say a 500 horsepower engine, one crank bearing—if there were five cylinders, we will say—would be carrying a load of 100 horsepower; but the timing gears on that engine would not require 100 horsepower to drive that upper camshaft. In other words, figure that in a percentage of horsepower used in the engine to drive the auxiliary equipment on that engine—in other words, it is a

(Testimony of Herman Sanwick.)

difference between indicated horsepower and shaft horsepower.

Q. Does a Diesel engine take on any water through its oil system during the course of normal operations?

A. Not necessarily, only what might be brought in through the engine through air that the engine draws into it, and there is naturally a certain amount of moisture in air that you draw into an engine—condensation, in other words. [1460]

Q. What happens to that water?

A. If there is any great amount of that water you pick that up in your provisions provided on that engine to remove water from oil; like your settling tank and your filters and strainers, and so on, and you have three or four different ways of drawing that water off the lubricating system.

Q. In your opinion, could lubricating oil be contaminated to such an extent as to cause the galling of the helical timing gears by the dropping of fresh water down the inside of one cylinder at the rate of ten drops per minute, assuming you have a lubricating oil capacity of 70 or 80 gallons, in a period of ten days?

A. No, that wouldn't bother it, not that small amount.

Q. Having answered no for ten days, your answer would be the same with respect to a period of 36 hours? A. Yes.

Q. And any lesser period? A. Yes.

(Testimony of Herman Sanwick.)

Q. Can you tell whether oil is contaminated by the color of it?

A. Well, yes, you can tell whether oil is contaminated by the color of it if you know the color of the oil you put in there originally.

Q. If oil were proven to be brown in color, would that [1461] necessarily show that it was contaminated?

A. As I say, I couldn't say. I don't know what color oil they put in there originally.

Q. Assuming that it was a different color, would the color brown indicate contamination?

Mr. Howard: I object to that. There is no evidence in the record upon which such an assumption could be based.

The Court: As to brown color?

Mr. Howard: There is testimony that the oil was found to be of a brown color after it had been removed, but there is no basis for an assumption that it was another color when it went into the system, if the Court please.

The Court: I understood Mr. Hokanson to indicate brown as the color when he used the term "other color." Perhaps I am wrong. The objection is sustained because of uncertainty as to the form of the question.

Q. Assuming that a conclusion is drawn that lubricating oil is contaminated by sea water because it appears brown in color, is it possible, in your

(Testimony of Herman Sanwick.)

opinion, to determine the source of contamination by looking at the color of the oil?

Mr. Howard: I object to that. He has already testified he would have to know the color of the oil [1462] when it went into the engine. I object to it as being repetitious.

The Court: The objection is sustained, not because it is repetitious, but because I think all of the necessary conditions are not stated.

Q. Can you tell by color of oil the source of contamination, if it proves to be contaminated?

A. Not an accurate cause. You would have to analyze it.

Q. You mean chemically?

A. By a laboratory that does that kind of work.

The Court: At this point we will take the noon recess until 1:30 this afternoon.

(At 12:03 o'clock p.m., Monday, April 18, 1949, proceedings recessed until 1:30 o'clock p.m., Monday, April 18, 1949.)

April 18, 1949, 1:30 o'clock p.m.

The Court: You may proceed.

Q. Assume that you have a lubricating oil cooler attached to a Diesel engine, with an operating pressure of 18 pounds on the oil side and an operating pressure of 7 pounds on the salt water side; assume further that there are leaks in the cooler: is it

(Testimony of Herman Sanwick.)

possible to get salt water into the oil under those circumstances? A. No.

Q. Why not?

A. Because the pressure of the oil being 18 pounds and the pressure of the water being 7 pounds, the greater pressure would enter into the lower pressure.

Q. How is the pressure maintained on oil coolers in Diesel engines?

A. They are maintained by two pumps; one that takes care of the lubricating oil pressure and the other one that drives the salt water circulating pressure.

Q. In other words, a static pressure is maintained in the cooler?

A. A pressure—when you say static, I don't quite understand how you mean static.

Q. As opposed to dynamic, a constant pressure?

A. Yes, a constant pressure.

Q. What happens if you have leaks in your oil when the oil pressure is higher than the water pressure? A. What happens?

Q. If there are leaks in the cooler and the oil is at 18 pounds and the water is at 7?

A. The oil would enter into the water side, or the lower pressure, and the oil in your circulating system would decrease in quantity and that would be noted on the gauge glass on the system tanks, the sump tank or day tank, as you might call it.

(Testimony of Herman Sanwick.)

Q. What happens to the oil that goes into the water?

A. It goes into the sea water and overboard into the ocean.

Cross-Examination

By Mr. Howard:

Q. Mr. Sanwick, you expressed the opinion that where leaks were found in the lubricating oil cooler, they might be due to defects in the solder, or vibration. Defects in the solder might exist prior to the commencement of the voyage, isn't that true?

A. If there are defects, it could be at that time, yes.

Q. If the heat exchanger was only subjected to a test pressure of let's say 50 pounds, such defects might not be disclosed in the hydrostatic test, isn't that true?

A. That is possible, yes.

Q. Whereas, if they are subjected to a higher pressure on the hydrostatic tests, the defects in the solder might then be discovered, isn't that true?

A. That is true. [1465]

Q. You mentioned as another possible cause the vibration. If you assume that the engine was operating normally during the period of ten days of this sea voyage prior to the first breakdown, there would be no cause to expect any excessive vibration, would there?

A. I never made a statement "excessive vibration." I said working vibration of the engine.

(Testimony of Herman Sanwick.)

Q. Would you expect the leaks to develop in the seams of the solder from normal vibration of the engine? A. Not necessarily, no.

Q. In other words, it would be excessive vibration that you had reference to, isn't that correct?

A. Yes, it could be excessive.

Q. The opinion that you expressed on the breakdown after a period of ten days' operation of the main engine, and leaks in the cooler existing at the commencement of the voyage—did you take into consideration there the possibility that the contamination of the lubricating oil might be progressive during that period of time?

A. I don't quite get that question.

Q. Did you hear the question?

A. Not completely.

Q. Read the question, please.

(Last question read by reporter.) [1466]

A. Yes, it could be progressive contamination of the oil.

Q. In other words, your oil might be in fairly good condition for a few days and then it might progressively become more contaminated, isn't that true?

A. It could be contaminated, but if that condition existed, it would be noted by the engineer on watch.

Q. How, please?

A. By different reasons. These engines are provided with a strainer coming out of the engine going

(Testimony of Herman Sanwick.)

into the pump. That is one place you have of checking the oil coming out of the engine to see if there is any water or dirt—that is what it is put there for.

From that pump, it goes to the day tank or the sump tank. That has a settling area in the bottom of the tank. Dirt and water naturally will settle from oil and go to the bottom. You can take samples from that, which an engineer does in his regular rounds, to see if there is any water or dirt showing up. From there on you go through a further strainer going back into the engine, where you can pick up any dirt or water, which the engineer checks on his regular rounds.

Q. In making those last statements, did you have in mind the engine on the 'Tanker Urania?

A. I have in mind a Diesel engine on any ship.

Q. Have you ever seen the engine on the Tanker Urania? A. No, not the engine.

Q. Then you don't know whether it has the type of filter or the type of day tank that you have just referred to?

A. I do not know that specific engine other than the factory prints of it.

Q. When you are speaking about the friction and heat being generated in your various types of bearings or gears, do you recall the statements you made concerning that? A. Yes.

Q. I would like to ask you what type of a contact you have in a helical gear?

(Testimony of Herman Sanwick.)

A. Tooth to tooth.

Q. What kind of a contact do you have in a bearing? A. Bearing to crankshaft.

Q. In other words, it is a smooth contact, is it not, over a fairly large surface?

A. It is a smooth surface, yes.

Q. On a helical gear it is a point to point contact, isn't it?

A. Not a point to point, the side of the tooth.

Q. What is your opinion as to the relative pressure or strain borne by a helical gear as compared to a bearing?

A. As I said before, that is a mathematical question that is hard for me to answer exactly.

Q. Have you ever made any research to determine the relative strain or pressure borne by a helical gear as compared to a bearing?

A. In my experience, I do know that a crank bearing, for instance—you have the top half of this crank bearing, that one surface is always working on that crankshaft, is doing the labor; but on a gear first one tooth takes the load, then the following tooth takes the load, until it makes a complete revolution and then it comes to that tooth again, so that tooth is not taking the load continuous the same as a crank bearing is taking the load continuous in exactly the same area.

Q. Isn't it true, though, that in a helical gear or set of helical gears there is more opportunity for grinding than there is in a bearing—in other words,

(Testimony of Herman Sanwick.)

you have an additional frictional factor to consider, do you not?

A. I don't see how you could with perfect lubrication. Assuming equal conditions of lubricating between the helical type gear and the bearing that you have described, isn't it true that with the teeth in the helical gear there is the additional factor of grinding, or additional factor of friction involved?

A. No, I don't think there is, for the reason that a helical gear has a sliding motion, and those teeth are highly [1469] polished and they have their oil film between them when they are working.

Q. But it is true that there is a point to point contact, so to speak?

A. Any mechanical working part has a source of friction if there is no lubrication there.

Q. You mentioned that in your opinion the dropping of fresh water down the side of the cylinder liners at the rate of ten drops per minute over a period of ten days would not, in your opinion, be an explanation of the cause of the galling of the helical gears?

A. No.

Q. Assume that that same condition existed along with some contamination of your lubricating oil in the cooler through salt water leaks, would you then say that the dropping of fresh water might be a contributing cause of the breakdown?

A. No.

Q. Why not?

A. For the reason that fresh water—you would have to have a large amount of fresh water to

(Testimony of Herman Sanwick.)

break your oil down. A small amount of fresh water going into lubricating oil has a tendency to evaporate and go into sort of a light vapor, and so on, and it more or less evaporates out of the oil; and water has no foreign element in it that is destructive—in other words, it is clean and pure. [1470]

Q. But once again, if the fresh water was contaminating the lubricating oil along with contamination from the salt water side of the heat exchangers, couldn't those two conditions together furnish an explanation of the galling of the helical timing gears?

A. Not in my opinion, it wouldn't.

Q. Can you amplify that, please?

A. You say the oil is contaminated. Well, in the first place, if the oil is contaminated you don't run the engine; you do something about it. You remedy or find out where this contamination is coming from.

Q. Let's assume that they did not and could not determine the contamination of the lubricating oil—what I am interested in finding out is your opinion as to whether the contamination of the oil could explain the galling of the helical timing gears?

A. If oil is contaminated to a degree where this oil is broken down and ruined, yes, gears will gall or bearings will burn out, and so on, but I maintain that those difficulties would be experienced in your crank bearings and journals before it would be experienced in your timing gears; for the reason that in a Diesel engine, they are designed so that

(Testimony of Herman Sanwick.)

if you do have contaminated oil, you possibly burn out a crank bearing. A crank bearing can be changed by the engineer in a short period of time, but if you were to [1471] damage your timing gears, why, it would take several hours to change a set of timing gears, and therefore timing gears in an engine are generally so designed that they will be one of the last things to be damaged due to contaminated oil.

Q. Have you ever seen helical timing gears on a marine Diesel engine that were galled?

A. Yes, I have seen them where you might call it galled, that is, where they have been worn. I have seen that, yes.

Q. How frequently?

A. Well, not recently, no. You said how frequently?

Q. Yes.

A. I imagine in my experience two or three different times, at the most.

Q. Did you then determine what the cause of the galling was?

A. These were generally of the older type engines where the timing gears were open and subject to dirt or foreign matters getting into those timing gears from the outside area; and on some of them there would be a broken gear or something of that order that would start this condition, this galling, like chipping a gear.

Mr. Howard: I have no further questions.

(Testimony of Herman Sanwick.)

Redirect Examination

By Mr. Hokanson: [1472]

Q. In answering Mr. Howard's question about the solder in the cooler, isn't it true that the condition or age of the solder might have something to do with how quickly it might fracture or come apart in the process of operation?

A. The age of it would have something to do with it, yes, on any soldered joint.

Q. Depending upon that, you could not predict accurately when it would happen under operating conditions?

A. No, you couldn't determine when——

Mr. Howard: Objected to as leading.

The Court: Sustained.

Mr. Hokanson: I have no further questions.

Mr. Howard: No further questions.

The Court: You may step down.

(Witness excused.)

Mr. Hokanson: Your Honor, at this time cross respondents would like to read into evidence the deposition of Mr. Frank H. Gallagher.

The Court: You may proceed to do that.

Mr. Hokanson: We will now read his deposition.

(Mr. Waddoups appearing for libelants-cross respondents; Mr. Collins appearing for claimant-cross libelant.) [1473]

DEPOSITION OF FRANK H. GALLAGHER

“Direct Examination

By Mr. Waddoups:

Q. Mr. Gallagher, will you state your full name, please. A. Frank H. Gallagher.

Q. And what is your business or occupation?

A. Marine Surveyor to the American Bureau of Shipping.

Q. And where is your present office?

A. In Honolulu. Home office in New York.

Q. And, Mr. Gallagher, how long have you been associated with the American Shipping Bureau?

A. Seven and one-half years, as a surveyor.

Q. And will you give us a little background as to your experience as such surveyor?

A. Well, I am a professional registered engineer of the State of Washington. I hold a chief engineer's license, steam and Diesel, unlimited.

Q. What have been the various posts in which you have served with the American Shipping Bureau?

(Deposition of Frank H. Gallagher.)

A. New York, on the Great Lakes; Seattle; Portland, and, of course, in Honolulu now.

Q. Mr. Gallagher, are you familiar with a vessel known as the M. T. "Urania"? A. I am.

Q. Are you also familiar, or do you know anything about a firm which goes under the name and style of Commercial Ship [1474] Repair?

A. I do.

Q. Have you had occasion to perform any duties with relation to the M. T. "Urania" in your capacity as a representative of the American Bureau of Shipping?

A. Yes, we carried out work, and a special survey and repairs and conversion on that vessel.

Q. Do you recall when this work was done?

A. Yes.

Q. And where, please?

A. I attended that vessel on August the 16th 1948 when the vessel was over at the Commercial Ship Repair plant, at Winslow, Washington, and my last date of attendance was October the 9th, 1948.

Q. Do you have in your possession a report or a signed copy of a report which was made and filed by you as a result of your inspection of this vessel?

A. Yes, I have a carbon; signed copy.

Q. May I see it, please.

A. (Witness shows a document to counsel.)

Q. Now, Mr. Gallagher, calling your attention to a document consisting of seven pages which you

(Deposition of Frank H. Gallagher.)

have just handed me, and to which is appended a document dated October 9, 1948, entitled "Survey report, bearings repair; number 3058. Copy", and I call your attention to the signature which [1475] appears on the last page of the document mentioned, and ask you if that is your signature.

A. That is my signature.

Q. Mr. Gallagher, have you had an opportunity in recent days to examine this report?

A. No, I have not.

Q. Will you examine it and state for the record whether or not that is your own report.

A. Well, this report has been in my possession since the time I received it in Portland, on or about February the 20th, and at that time I did read the report, and I am quite certain that it is unaltered in every respect.

Mr. Collins: Did you intend to introduce this in evidence at this time?

Mr. Waddoups: Yes.

Q. Mr. Gallagher, are you, under the rules of your office, permitted to surrender possession of that report?

A. No, unfortunately I am not.

Q. You would be unable, then, to put that report into the file as a part of this record?

A. We are requested to make a survey on a vessel by the owners, and it is the policy of the Bureau to furnish the reports to the owners and not to release the report to anyone else. However, the releasing of such a report I believe would come under the

(Deposition of Frank H. Gallagher.)

direction of our chief surveyor in [1476] New York.”

Mr. Hokanson: Your Honor at this point it is apparently stipulated that the copy of the report which the witness testified he had signed could be introduced as an exhibit for identification, provided the matter was compared at a later date and proved to be the same, and counsel for the cross libelant agrees.

“Q. Now, Mr. Gallagher, are you prepared to state at this time the extent of your inspection of this vessel? A. I am.

Q. Will you please so state.

A. The owner's representative, Mr. Harry Williams, representing the Compania Naviera Limitada, requested this Bureau to examine and report upon the dry-docking, the drawing of the tailshaft; repairs and alterations, the annual boiler survey; the carrying out of special periodical survey number 1, on the hull, machinery and electrical apparatus, and also to carry out the annual classification survey and international load line survey. That was the purpose of our attendance.

Q. And what were the examinations and inspections made by [1477] you on the occasion that you did inspect the “Urania”, please?

(Deposition of Frank H. Gallagher.)

A. We found, as far as the exterior hull is concerned——(interrupted)

Mr. Collins: May I interrupt. You used the word “we”. Do you mean by that someone other than yourself?

A. By “we”, I believe, being that I am part of, and a representative of a society, I feel I am entitled to use the term “we”.

Mr. Collins: I will postpone my questioning.

Q. Did you, however, personally make this inspection?

A. Definitely. So, perhaps it goes back to an “I”.

Q. Will you continue, please.

A. I found the exterior condition of the hull to be satisfactory. However, there were some slight repairs which were nothing out of the ordinary. At that time alterations in the vessel's structure were carried out to suit the requirements of the new owner, and his specifications.

Q. And where did you receive those requirements, and those specifications?

A. They were presented to us by the owner's representative and of course the contract around those specifications was made between the company, that is the owner, and the Commercial Ship Repair, and upon completion of the alterations to the various portions of the vessel why we examined the alterations which we were concerned with and found that the [1478] alterations had been effected in a satisfactory manner.”

(Deposition of Frank H. Gallagher.)

Mr. Howard: I move to strike the last part of that paragraph as not responsive, and also the next paragraph of the answer as not responsive to the question.

The Court: Beginning, "Now, when I spoke of the hull"?

Mr. Howard: That is correct.

The Court: I think it is an explanation of the extent of the hull's inspection.

Mr. Howard: The question is, "Where did you receive those"——

The Court: It will be stricken.

Mr. Hokanson: Starting at what point?

The Court: On page 8, the first answer, the second paragraph, "Now, when I spoke of the hull".

Mr. Hokanson: I agree that second paragraph may be stricken.

The Court: That second paragraph, consisting of four lines, beginning where I have stated, is stricken.

"Q. Now what other inspection was made of this vessel?

A. Do you want to go into other portions of the special [1479] survey?

Q. Yes, sir.

A. Do you mean in relation to machinery?

Q. Yes, Mr. Gallagher, if you will, please.

A. Well, prior to my attendance, the Bureau

(Deposition of Frank H. Gallagher.)

carried out a preliminary survey of the main engine."

Mr. Howard: I will waive the objection.

"Q. Now, Mr. Gallagher, when you say the Bureau made a preliminary survey, did you have anything to do with that personally?

A. Personally I did not, but I was furnished a report, as is customary, because it is part of our function to keep a past record of a vessel; when we attend a vessel we know the past history as far as its general condition of the classification survey is concerned, and at the time that I attended the vessel I had a copy of Seattle report number 2638, dated 2/5/48, which stated that the cylinders of the main engine were fractured.

Mr. Collins: Again I interpose a running objection to any reference to this survey.

Q. Do you have a copy of that report which you have just [1480] mentioned? A. I do not.

Q. Where would that be located?

A. In our Seattle office.

Q. After this preliminary survey what further steps did you take, Mr. Gallagher?"

Mr. Howard: This next answer I move to strike first on the ground it contains a hearsay statement;

(Deposition of Frank H. Gallagher.)

second, it is not responsive to the question asked.

Mr. Hokanson: I have no objection.

The Court: It will be stricken, down to the next question on page 11, and further if counsel agree. If they have a different arrangement, state what the arrangement may be.

Mr. Hokanson: Does your objection go to the question beginning at the top of page 11?

Mr. Howard: Yes, it would, being a hearsay statement not within the knowledge of the witness.

The Court: If the witness were on the stand and the same objection were made, the Court would feel it should be overruled. You can call to the attention of the witness some matter, even if it is a hearsay matter, and then ask him what if anything he did.

Mr. Howard: I will waive the objection.

“Q. As a result of your reading this Seattle report which you referred to, Mr. Gallagher, what steps, if you know, were taken to effect repairs to this vessel?

A. The owners purchased new equipment to replace that which was fractured.

Q. And was that equipment installed?

A. It was installed, indeed.

Q. And upon your inspection, what condition did you find the installed equipment to be in?

A. To the best of my knowledge it was new; the replacements were new.

(Deposition of Frank H. Gallagher.)

Q. Would you say they were in good condition?

A. Indeed they were, yes.

Q. And as a result of your review of this report, or of your examination, just what further steps were taken by you to inspect the ship, and please relate in specific detail the portions of the vessel which were affected?

A. The main engine was completely dismantled, and the crankshaft was raised. An examination was made of the engine frame, the tie rods, the crankshaft, the fuel pumps, liners, pistons, connecting rods; wrist-pin and connecting rod and shaft; thrust bearings; all of which were found to be in a satisfactory [1482] condition. The intake and exhaust valves were ground in, and piston rings renewed. And the attached cooling pumps were found in good condition. That, in brief, takes in the main engine.

Q. What other alterations, if you know, were effected, and will you state from your inspection what the result of those repairs was?

A. Well, the two 40 K.W. 6-cylinder Diesel-driven generators were completely dismantled, and the crankshafts removed; the crankshafts, engine frames, pistons, connecting rods, fuel pump, cams, valves, motion linkage thereto, were examined and were found to be in satisfactory condition. The piston rings were renewed and the valves were ground in, and except as further noted, were found to be in satisfactory condition.

(Deposition of Frank H. Gallagher.)

Q. Now are the facts to which you are now testifying substantially contained in the report number 3058 to which reference has been made earlier?

A. No.

Q. You are testifying now to matters other than are contained in that report, is that correct?

A. That is correct. The crankshaft of the star-board combination generator and cargo pump was found fractured. The shaft was renewed.

Q. What further repairs and inspections were made? [1483]

A. The cylinder block of the port generator was found fractured, and that block was renewed. The two gear-driven cargo pumps within the pump room were opened, examined, and were found in good condition, and the fire, bilge and sanitary pumps were found to be in good condition. We examined the compressors and found them to be in order. The air reservoirs were found in likewise good condition. The lube oil coolers and the inter-cooler were examined and found to be in satisfactory condition. The anchor windlass was turned and examined and found in satisfactory condition. The steering engine was examined and found to operate satisfactorily, and upon recommendation a relieving tackle was furnished, and upon completion of all our recommendations for repairs a sea trial was held, during which time I observed the operation of the main engine and all the accessories thereto, and other than recommending the re-timing of the engine, I found

(Deposition of Frank H. Gallagher.)

the equipment to be quite in order and satisfactory.

Q. Do you recall whether or not the recommended re-timing was done? A. It was.

Q. What further repairs and inspection were made, please?

A. The electrical work. The motors were overhauled; renewals carried out as found necessary, such as brushes and bearings, and during the sea trial period such operation [1484] was found to be good. In addition to that, insulation resistance values were taken on circuits, and the noted readings on such circuits were found to be of acceptable values. And the heating boiler was hydrostatically tested, and the newly installed nested tube tank was found tight, and the electric controls, relays and resistors for the operation of the heating boiler were found in good condition, and to function satisfactorily.

Q. Was any further inspection made, that you recall, or any further repairs and inspection made, Mr. Gallagher?

A. Yes, there was. Plugs and canvas boots were furnished for the ventilators, and the exhauster duct leading to the pump room was revised, at our request, because we found—that is, I found, the duct thickness to be below that which is required.

Q. Was this deficiency cured by the repairs?

A. Yes, it was.

Q. Were there any further repairs and inspection made?

(Deposition of Frank H. Gallagher.)

A. No, I believe that takes in the general aspect of the survey.

Q. Now, Mr. Gallagher, are you familiar with the ammunition bulkhead that was on the vessel at that time, prior to its removal, or about the result that was effected by the removal of the ammunition bulkhead?

A. No, I am not familiar. However, I can connect the location. [1485]

Q. From your experience and training, as an expert in this field, Mr. Gallagher——(interrupted)

A. I don't believe I wish to be called an expert.

Q. Well, let me put the question differently. At least from your training and experience, and as the result of your inspection, did you form any conclusion as to whether or not the removal of the ammunition bulkhead had affected the strenght or seaworthiness of the vessel?

Mr. Collins: I object to that question as a hypothetical question, and as being put on the basis of the witness being an expert, an expert witness, and he has not been qualified as such, and he disavowed being an expert."

Mr. Howard: I renew the objection.

Mr. Hokanson: I submit this witness' qualifications are such as to qualify him as an expert. Out of modesty, he himself asked that he not be designated as an expert.

(Deposition of Frank H. Gallagher.)

The Court: The objection is overruled.

“Q. Will you answer the question, now. The Court later will rule on that.

A. Well, that bulkhead, if it is the bulkhead which is above the free-board deck, is what I consider a subdivision [1486] bulkhead, and does not serve as a water-tight member of division.

Q. Getting back to the question as asked, and which has been objected to, and the record may show the objection is preserved to this further question, too: In your opinion did the removal of that bulkhead affect the strength or seaworthiness of the vessel?

Mr. Collins: I further object to that question on the basis that the witness has indicated that he has not definitely placed the bulkhead as being above or below the free-board deck.

Q. Well, then, if it is the one that was above the free-board deck, what is your opinion as to its effect, on the sea-worthiness of the vessel?

A. In my opinion if that bulkhead referred to is located above the freeboard deck it would have no effect on the sea-worthiness of the vessel.

Mr. Collins: We will reserve the same objection to the question and answer as previously made, on the basis of the hypothetical question.

Q. Now are you familiar with any telemotor repairs that were made on this vessel at Port

(Deposition of Frank H. Gallagher.)

Angeles, Washington? A. No, I am not.

Q. Do you recall when the vessel was taken on a sea trial? A. I do. [1487]

Q. When you were present?

A. Indeed I was.

Q. When was that? Could you give us the approximate date, or the exact date, if you can?

A. At the moment I cannot furnish the exact date, because I do not have my notes on the daily recordings with me, but I would say that such trial was carried out about the 6th of October.

Q. Could it have been on the 8th of October?

A. It could have.

Q. And do you recall whether or not an inspection was made of the telemotor at that time?

A. Yes, the steering equipment was examined during the trials of the vessel.

Q. Did you at that time find any evidence of air locking or a tendency to oscillate in the system?

A. No, to the best of my knowledge there was no difficulty experienced with the rudder or the steering equipment.

Q. Was there anything to indicate to you, from your inspection, the existence of a worn or broken wire in the telemotor system?

A. No, none whatsoever.

Q. I think you have already stated that certain recommendations were made by you with respect to the steering apparatus. A. That's right.

Q. And reference is made to that in your report?

(Deposition of Frank H. Gallagher.)

A. That's right.

Q. And were the recommendations carried out?

A. They were.

Q. Now your report makes reference to relieving tackle. Did the relieving tackle have anything to do with the operation of the telemotor? A. No.

Q. What purpose did it serve?

A. The relieving tackle is put in to ease the effect on a rudder, when the sea is coming up against the opposed area of the rudder, and as the rudder swings back the relieving tackle will tend to ease the rudder in its direction.

Mr. Waddoups: I understand, Mr. Gallagher, you are obliged to leave at this time to go to a ship?

Mr. Gallagher: Yes.

Mr. Waddoups: When can you return and complete this deposition?

Mr. Gallagher: Possibly tomorrow morning. I will have to find out from the company.

Mr. Waddoups: Suppose we put it on the basis of tomorrow morning, and after you have contacted your people you can let us know if it is not possible for you to meet here. We will meet here at 8 o'clock tomorrow morning, and if it is to the contrary we will hear from you this afternoon. [1489]

Mr. Collins: That is satisfactory.

(Whereupon, at 1:55 o'clock p.m., the taking of the deposition was adjourned, subject to confirmation, at 8 o'clock a.m., Saturday, March 19, 1949.)

(Deposition of Frank H. Gallagher.)

(At 8 a.m., Saturday, March 19, 1949, the further taking of this deposition was postponed until Saturday, March 26, 1948, at 8 o'clock a.m.)

Pursuant to adjournment, the taking of this deposition was continued on Saturday, March 26, 1948, commencing at 8:22 o'clock a.m., at the same place, all parties being present as before, whereupon the following proceedings were had and done:

FRANK H. GALLAGHER

resumed the stand as a witness on behalf of Libelants—Cross Respondents, and continued his deposition as follows:

Direct Examination (Continued)

By Mr. Waddoups:

Mr. Waddoups: May the record show that this is a continuation of the deposition of Mr. Frank H. Gallagher, which was continued from March 18, 1949, and that the same parties are present, and both parties involved in this deposition are represented by their respective proctors.

Mr. Collins: Right.

Q. Now, Mr. Gallagher, during your examination at our last [1490] hearing you very modestly stated that you did not consider yourself an expert. What training had you had prior to going in with the Shipping Bureau? By that I mean your education and background.

A. Well, I went to St. Johns, New York, and I went to Wisconsin, Milwaukee.

(Deposition of Frank H. Gallagher.)

Q. What was the nature of the courses you took?

A. I have taken engineering. I graduated from the New York Electrical School, and I think that was in '26,—or '28, that's right. I was for four years a Cadet and continued at sea until I got my chief engineer's license, both steam and Diesel.

Q. How many years at sea did you have?

A. About ten. I worked for the Sun Ship Yard, and then I came with the Bureau, and of course prior to being transferred to the West Coast why I spent about three years at large manufacturing plants; Diesels; that is, with the Norberg plant, and Allis-Chalmers, and that would be, in general, about what my experience is, as far as that is concerned.

Q. Mr. Gallagher, is there any type of examination that is given to qualify you for appointment to the post you now hold?

A. No, there is no examination, as far as examination is concerned. It is a matter of record, perhaps much as in your own profession, as you would go from one law firm to another, and be accepted on your past record and experience. [1491]

Q. All in all, prior to your appointment to the post you now hold, how many years of experience did you have with shipping, steamships in particular?

A. You mean, inclusive?

Q. Yes, Mr. Gallagher.

A. Well, that would show about 18, as far as the general association.

Q. And during those 18 years will you give us

(Deposition of Frank H. Gallagher.)

as best you can remember the different positions you have held?

A. Well, I have been with the Bureau since 1941; that would take in eight; and the other times, as I said before, about ten would take in the Sun Ship Yard time, and my four years as Cadet, and then up to First Assistant Engineer on both steam and Diesel ships, of an ocean-going nature.

Q. And what organization established your status as an assistant chief engineer?

A. Well, that question I don't believe is quite right. As an assistant chief engineer? The license issued to me as chief engineer, why that is a government examination.

Q. Do you recall in what year you received that license?

A. Yes, 1939, I got my chief's license, I am sure, in both steam and Diesel. Perhaps you had better make that 1940 on the Diesel, and I got a professional engineer's license in the State of Washington June, 1948.

Q. Now you have testified to going on a sea trial with this [1492] vessel, the "Urania". Do you recall whether or not anyone accompanied you on that sea trial, to observe, as you were observing, the manner in which the vessel operated?

A. Yes, the owner's representative, Mr. Harry Williams.

Q. And during the course of your inspection of the "Urania" what portion of the time, during

(Deposition of Frank H. Gallagher.)

that inspection, was occupied in the company of Mr. Williams?

A. Well, we were more or less in constant company.

Q. And in the course of that inspection were comments made by one to the other, as to the condition of the vessel?

A. Yes. It was his obligation and his job to be just as much interested in the work and to judge its functional operation, as I was."

Mr. Howard: I move to strike that as not responsive.

Mr. Hokanson: It is responsive, I submit, Your Honor.

The Court: The word "Yes" is responsive, but what follows is not. It will be stricken.

"Q. And in the course of judging that functional operation were you and Mr. Wililams in disagreement on any particular phases of that operation?

A. No, we were not.

Q. Did Mr. Williams ever give any opinion to you as to whether or not, as representative of the ship's owners, he was satisfied or dissatisfied with the inspection?"

(Deposition of Frank H. Gallagher.)

Mr. Howard: I will waive the objection.

“Q. You may answer question.

A. No. Mr. Williams was quite satisfied with the repairs as carried out. There were a few recommendations which we did make during the sea trial.

Q. Do you recall what those were, specifically?

A. Yes, I do.

Q. Will you enumerate them, please”?

Mr. Howard: I will waive the objection.

“A. The recommendations I made were made after having talked the operation of the engines over with Mr. Williams, and we both concurred, that a little timing should be carried out on the main engine. Other than that we were quite satisfied. [1494]

Q. Now what lead you to recommend that the timing be checked or revised, if that was at your recommendation?

A. That's true. By the hunting of the engine. By that, I mean the control was not quite right, and, if I remember correctly, we were to ascertain why the wedges came out. That, however, was later corrected.

(Deposition of Frank H. Gallagher.)

Q. And as finally delivered over to the owners, after the making of recommendations by your department, and their correction, did Mr. Williams or any other representative of the owners, to your knowledge, call attention to any further defect in the vessel?

Mr. Collins: Same objection.

A. No, sir. I believe the only recommendation or recommendations regarding the completed condition of the vessel, as far as our society was concerned, that I made, and so state here: It was found——

Q. By “here” what do you mean?

A. In my report.

Q. That being the report that was offered in evidence here earlier—or a copy of which was offered in evidence?

A. Yes. It was found that the main engine needed timing and it was recommended that the engine be timed.”

Mr. Hokanson: At this point, Your Honor, I offer [1495] in evidence the report of Mr. Gallagher, which he testified to on page 5, at which time a stipulation was entered into with respect to the substitution of a copy.

Mr. Howard: Here is the original, counsel, if you would like to offer that.

(Report #3058 marked Libelants' Exhibit 17 for Identification.)

(Deposition of Frank H. Gallagher.)

Mr. Hokanson: I offer Libelants' Exhibit 17.

Mr. Howard: I have no objection.

The Court: Libelants' Exhibit 17 is now admitted.

(Libelants' Exhibit 17 received in evidence.)

LIBELANTS' EXHIBIT No. 17

American Bureau of Shipping
45 Broad Street, New York 4, N. Y.

(This Form is to be used in Confirmation of
Class only.)

Report No. 3058

Tanker "Urania"

Seattle 4, Wn., Oct. 9, 1948.

This Is to Certify that the Undersigned Surveyors to this Bureau did, at the request of the Owners representative, Mr. Harry Williams, (Owners Compania Naviera Limitada), attend the steel screw motor vessel tanker "Urania", 690 gross tons, of Panamanian registry, on the 16th day of August 1948, and subsequent dates, while the vessel lay afloat and while dry on dry dock at the Winslow Yard of the Commercial Ship Repair Co., Winslow, Washington, in order to examine and report upon the dry docking, the drawing of the tailshaft, repairs and alterations, the annual boiler survey, the carrying out of Special Periodical Survey No. 1, on Hull, Machinery, and electrical apparatus

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

and also the carrying out the Annual the Classification Survey and International Load Line Survey and report as follows:

Dry Docking.

1. The vessel was placed upon the dry dock and after the underwater body was cleaned, examination was made of the stem, stern, frame, rudder, pintle, propeller, keel, and all outside shell plating which, except as further noted, were found to be in satisfactory condition.

2. Plastic Coat.

The underwater body was found coated with a plastic application from the keel to the light load line. At numerous scattered locations the plastic was found removed and at these locations the plating was bare and lightly coated with rust. The intact portions of plastic were found alligatored and bond upon being tried, was found firm. With respect to fouling, the fouling was found negligible as approximately only 10 per cent of the underwater body was found fouled. The bare plating and the loosely adherent plastic was scraped and coats of A.C., A.F., and boat topping were applied.

3. The sea-valves and sea chests were opened; chests and strainers cleaned, examined, and sea openings and connections were found to be in satisfactory condition. All valves were ground in, stems repacked, bonnets regasketed, bodies coated and valves closed in good order. Scupper and sanitary discharge valves and connections were examined

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

and, the existing together with the newly installed sanitary connections were found to be in satisfactory condition and operating order.

4. The rudder was unshipped, examined, and was found to be in satisfactory order. The pintle pin was tried to the gudgeon bushing and the fit was found satisfactory.

5. (a) The propeller was unshipped and tailshaft drawn outboard for examination. The tailshaft fitted with a non-continuous liner was examined and was found free of defect. The fit to propeller hub was likewise found satisfactory. After replacement of tailshaft and propeller the rubber seal ring was reinstalled to the external sealing arrangement. The two stern tube bearings were examined and were found in good condition. At the time of this examination the after peak tank was undergoing test and no evidence of leakage was found in the stern tube. (Drawn 9/48).

(b) Tailshaft clearance in the after stern tube bearing, by caliper measurements, was found to be .060".

6. Approximately ten feet (10') of the port side bilge keel was found slightly distorted, together with the port side plating of the 1st strake below sheer in way of No. 4 cargo tank and that plating of plate No. 6 from forward of the sheer strake was also found set in slightly between longitudinals. These conditions are not of a serious nature and

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

repair to which need not be carried out as a condition of maintenance of class.

7. Several indents in the sheer strake plating, port side, plates Nos. 1, 2 and 4 from forward were removed by fairing plate surfaces.

8. The port and starboard bower anchor chains were ranged, examined and, upon recommendation, frozen connecting links were freed up and chain was then found in satisfactory condition. The vessel has 105 fathoms of chain on the port side and 105 fathoms of chain on the starboard side.

Special Survey No. 1. Hull.

9. (a) The forepeak, afterpeak, cofferdam, ballast tank, double bottom and the eight cargo tanks were cleaned, examined internally and, with the following exception, the bulkheads, frames, floors, and plating were found to be in satisfactory condition. All closing appliances to these compartments were found gasketed and were in good order. Upon recommendation the sounding pipe to the after peak tank was extended to the bottom of the tank. The sounding pads were found in order.

(b) Three floors in the afterpeak tank were found partly buckled and, upon recommendation, repair to these floors was effected by fairing and, in addition strengthening of the floors was provided by installing vertical stiffeners on each side of the stern tube.

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

10. All of the aforesaid tanks were tested hydrostatically to classification rules. The tanks were examined and, after one minor fracture in the deck plating in way of No. 3, starboard cargo tank and another minor fracture in the sheer strake plating just below the fender in way of No. 4 port cargo tank were chipped out and welded, the tanks were then found to be tight and in satisfactory condition. The peak tanks were coated with a wash of cement.

11. At the time of ranging the anchor chains the chain lockers were examined and were found clean and in good condition.

12. The masts, rigging, hawse pipes and equipment thereto were examined and were found to be in satisfactory condition. In order to extend the height of the forepeak tank vent it was necessary to locate the pad for the foremast stay. This relocation was carried out as directed and in a satisfactory manner.

13. Alterations to the crews quarters aft and bridge were carried out in accordance with arrangement plans drawn by Sparkman and Stevens. Arrangement plans are:

Dwg. No. 837-1-Alt-1 Arrangement Plan 6/24/48.

Dwg. No. 837-3 Profile 7/1/48.

Dwg. No. 837-5 Deck house and bridge convention 6/28/48.

Dwg. No. 837-7 Ballast to F. O. Tank 6/30/48.

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

The vessel was not lengthened at this time.

14. The weather deck plating from stem to after end of poop deck was sealed, examined, and was found to be in satisfactory condition. Examination of deck plating within the after quarters was afforded by removal of deck composition and plating was found in good condition. Plating of decking in the peak spaces was found in likewise good condition.

15. The newly installed 10" and 15" port lights were examined, tested, and were found watertight and to have been installed in a satisfactory manner. The plating in way of the newly installed port lights and in way of the original port lights was found in good condition.

16. All pressure-vacuum relief valves fitted to the cargo tank vents were opened, overhauled, examined and were found to be in satisfactory condition. All steaming out coils and the steam smothering steam lines to the cargo tanks together with fire lines were tested and defective piping was renewed.

17. Engine and pump room spaces were examined and the condition of plating, framing and bulkheads was found satisfactory. Bilges were cleaned.

18. The pumping arrangements for the forepeak, peak spaces, and the chain locker were tried and were found to operate satisfactorily.

19. Fire Protection.

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

Carbon dioxide system—Steam Smothering.

(a) The CO² system installed to each of the eight cargo tanks and to the spaces within the fore-castle spaces was removed in its entirety. In place of this inert gas installation each of the cargo tanks and the spaces within the fore-castle were piped for steam smothering. Fore-castle spaces include the bunker tank (formerly ballast tank) paint locker, and space above the bunker tank tanktop.

(b) The smothering lines entering the cargo tanks are of 1 $\frac{1}{4}$ " dia. and those entering the fore-castle spaces are of 1" dia. The branch lines entering the individual compartments are fitted with shut-off valves and the distribution line is fitted with a master shut-off valve. All of these control valves are at an easily accessible position above the free-board deck and all valves are permanently marked. Drain lines are fitted and all exposed piping is adequately protected.

(c) There are an adequate number of fire main outlets and outlets are so arranged that any part of the vessel may be reached with two streams of water. Outlet connections are of the "Y" type and 1 $\frac{1}{2}$ " hoses were connected to the outlets.

(d) The fire pump was operated and was found to deliver a pressure of 100 PSI.

(e) A sufficient number of foam type portable extinguishers were placed at various stations within the passages in the crews quarters.

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

Machinery

20. It was previously reported in Seattle Report No. 2638 dated 2/5/48 that the cylinders of the main engine were fractured. The undersigned examined the cylinders and found each of the six cylinders to be fractured at their water jackets. The cylinders were renewed. The crankshaft was cleaned, examined and, as further stated, was found in good condition.

21. The main engine was completely dismantled and crankshaft was raised. Examination was made of the engine frame, tie rods, crankshaft, fuel pumps, liners, pistons, connecting rods, wrist pin and connecting rod and journal and thrust bearings all of which were found to be in satisfactory condition. Intake and exhaust valves were ground in and piston rings were renewed. Cooling pumps were found in good condition.

22. The two 40 K.W. six cylinder diesel driven generators were completely dismantled and crankshafts were removed. Examination was made of the crankshafts, engine frames, pistons, connecting rods, fuel pump, cams and valves and motion linkage thereto, wrist pin and connecting rod bearings which, except as further noted, were found to be in satisfactory condition. Piston rings were renewed and valves were ground in.

23. The crankshaft of the starboard combination generator and cargo pump was found fractured and

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

cargo pump was found fractured at No. 7 journal. The shaft was renewed.

24. The cylinder block of the port generator was found fractured and the block was renewed.

25. The liquid end of the two gear driven cargo pumps within the pump room were opened, examined, and were found to be in satisfactory condition.

26. The fire, bilge and sanitary pumps were opened, examined, and, were found to be in good condition.

27. The six cylinder diesel engine of the port cargo pump was completely dismantled, and examination made of crankshaft liners, cylinders, valves, fuel pump, cams and linkage, pistons, connecting rods, crosshead and connecting rod bearings, journal bearings, all of which were found to be in satisfactory condition. Intake and exhaust valves were ground in and piston rings were renewed.

28. The two air compressors were dismantled, and examination made of shafts, connecting rods, bearings, pistons, cylinders, valves and "V" belt drives all of which were found in satisfactory condition. The compressor valves were renewed.

29. The three main air reservoirs were hydrostatically tested to a test pressure of 350 P.S.I. The tanks were examined and were found tight and in satisfactory condition.

30. The lubricating oil coolers and the inter-

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

coolers were examined and were found in good condition.

31. The fuel day tanks were examined after having been filled and the tanks were found tight and in satisfactory condition.

32. The bearing and shafting, gears, etc. of both the anchor windlass and steering engine were examined and were found to be in satisfactory condition. Engaging arrangements on both the steering engine and anchor windlass were tried and were found to operate satisfactorily. Upon recommendation, a relieving tackle was furnished for the steering engine.

33. Upon completion of aforesaid examination and repairs, a sea trial was held during which time the undersigned examined operation of the main engine and all auxiliaries including the main cargo pumps. It was found that the main engine needed timing and it was recommended that the engine be timed. This recommendation was complied with and the undersigned re-examined the engine and found same to be in proper operating order.

34. For the purpose of record the manufacturer of the newly installed F.O. transfer pump installed above the bunker tanks was:

Pump—Blackmer Pump Co. Pump size 1501-10.
Motor Master Motor Ser. L.M. 6428.

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

Electrical.

35. All motors were removed from the vessel and armature and field windings were cleaned, baked, and reinsulated. Brushes and bearings were renewed as found necessary. The undersigned examined the motors and found same in satisfactory condition.

36. Insulation resistance on all power and lighting circuits was measured by megger and all circuits having a low value of resistance were restored to their original good order by the removal of grounds and defective wiring and lighting fixtures.

37. The power and lighting cables were examined as far as practicable and were found in satisfactory condition. The fittings on the main switchboard and distribution panels were examined and, upon recommendation various circuits were properly fused.

38. The two generators were run separately and in parallel and circuit breakers and switches were tested and generators were found to operate satisfactorily. The armatures and fields of both generators were examined and were found to be clean and in satisfactory condition. The operating and over-speed governors were found to function satisfactorily.

39. Upon recommendation a wood grating was placed in front of the main switchboard.

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

Special Survey No. 1 Now Complete

40. Annual Boiler Survey.

(a) The main vertical heating water coil boiler was hydrostatically tested to 225 P.S.I., examined, and was proved tight.

(b) The furnace was opened, dome removed, and the newly installed nested tube bank examined and was found in good condition. The steam separator was examined without opening and was found in likewise good condition.

(c) The steam separator and water mountings together with the feed line strainers and valves were opened, examined, and were found in good condition. The valves were ground in as directed.

(d) Relays and resistors together with the motor drive were examined after having been overhauled and were found in good operating order.

(e) The main safety valve was set under steam to relieve at a pressure of 100 P.S.I.

(f) The standby boiler was removed by the owners.

The Annual Boiler Survey is now complete.

41. Annual Survey.

(a) All parts of the steering engine were examined and were found in good condition.

(b) The conditions of assignment namely; extending poop ventilator coamings, furnishing wood plugs and canvas boots to ventilator coamings, furnishing covers for the hooded ventilators and the

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

replacement of the exhauster duct leading to the pump room, together with extending airpipes and sills to the required height and the freeing up of dogs on doors and cargo hatch covers were carried out.

(c) Coamings of ventilators to spaces below the freeboard deck and below decks of superstructures, cargo hatch coamings, hatch covers and their supports were examined and found in good condition.

(d) The gangway from the forecastle to the poop deck was examined and was found in good condition.

(e) Watertight doors in bulkheads and closing appliances in superstructure bulkheads and for air and sounding pipes were examined and were found in good condition.

(f) Machinery casings, guard rails and all other means of protection provided for openings and for access to crews quarters were examined and found in order.

(g) The assigned load line marks were cut in the vessel's sides. The marks were verified, found in accordance with the assignment, plainly visible and well marked.

(h) Provisional load line certificate No. S3014, dated Sept. 21, 1948 was issued for a valid period of three months.

42. Summary.

(Deposition of Frank H. Gallagher.)

Libelants' Exhibit No. 17—(Continued)

(a) Vessel's spare parts and equipment were checked and were found sufficient in number and of good quality.

(b) The equipment was likewise checked and was found in good order and in accordance to Rules.

(c) In view of the vessel being fitted with a Radio Phone and Direction Finder it is recommended that the abbreviations Radphone and RadDF be distinguished in the record in the case of this vessel.

(d) Radio Phone. Transmitter TCR-RCA, Received RMC 45. Direction Finder Transmitter DF RCA, Receiver Radio Mfg. Co.

In the opinion of the undersigned the vessel is in a seaworthy condition and fit to retain her present class with this Bureau.

/s/ F. H. GALLAGHER,

Surveyor

D. R. HEAD,

Surveyor

American Bureau of Shipping.

(Deposition of Frank H. Gallagher.)

“Q. Give us in substance what you recall, Mr. Gallagher, and if that exhibit refreshes your memory you can use it for that purpose.

A. I want to be specific now; no guess-work.

Q. Make your answer specific. You may use, and the record may show you are using that exhibit as a basis for your specific statements.

A. It was found that the main engine needed timing and it was recommended that the engine be timed. This recommendation was complied with and the undersigned re-examined the engine and found same to be in proper operating order.

Q. Now, Mr. Gallagher, in connection with timing, it has been asserted in this case that on November 3d of 1948 the timing of the engine had been completed, and upon being ready for sea trial the engine was run full ahead, resulting in uneven and irregular action, and resulting in the pistons heating the valves.

Have you any opinion as to what good engineering on a ship would dictate in connection with operating a vessel, with respect to timing?

Mr. Collins: I will similarly object, on the basis that the witness has not been qualified as an expert to answer this type of question.

Mr. Waddoups: You may answer the question.

A. What you related occurred a month or so after I attended the vessel. Many things could have taken place; changes; installation of new parts; perhaps a new part was placed in there

(Deposition of Frank H. Gallagher.)

which was not quite right and when they turned the engine over a valve fell into a cylinder, which I believe is what you have reference to. That is most unusual, though, however.

Q. Would running the engine full ahead, without timing it first, on a sea trial, be in accordance with good engineering practice, as based upon your experience and knowledge?"

Mr. Howard: I object to that question, since there is no evidence in this record that the engine was run full ahead without timing it first, no basis for such question being asked this witness as an expert based on a hypothetical assumption.

Mr. Hokanson: I agree, Your Honor.

Mr. Howard: I move it be stricken.

The Court: Both question and answer are stricken.

"Q. And tell us, briefly, what is done in the timing of the engine.

A. Well, when you time an engine you set your positions. In other words, the crank relations to the position points on the flywheel, which will, as far as the pistons are concerned, when they are approaching top center you will have a degree of regulation. By that I mean you may inject fuel for a given degree period. The degree period, of

(Deposition of Frank H. Gallagher.)

course, being predetermined by the advance of angularity of the crank, which will in turn either raise or lower the piston. However, the actual setting, when we are talking about a two or four-cycle engine, why we are mainly interested in the degree and the period of injection; usually about 15 degrees before top center, and time with the exhaust valves or the scavenging system.

Q. Was all the machinery involved in the timing system, at the time this ship was delivered over to her owners, after [1498] your inspection, in good condition and repair?

A. Yes. The recommendation I made to the owner's representative was carried out by the ship yard.

Q. Now there is a claim asserted in this case, Mr. Gallagher, that the timing gears were later in disorder, and that it might have come from contamination of the lube oil. Have you any opinion as to whether or not, subject to Mr. Collins' continuing objection on your opinion evidence,—which the record may continue to show, Mr. Collins.

Mr. Collins: Yes.

Q. (Continued): —the contamination of the lube oil would be the cause of the galling of the gears; the timing gears? A. Very possible.

Q. Would you say that the contamination of lube oil would cause the galling of timing gears without also injuring or doing damage to the main crank and trust bearings and other working parts of the

(Deposition of Frank H. Gallagher.)

engine which are lubricated by the same oil?"

Mr. Howard: I object to that question as not containing proper assumptions to permit the witness to express an opinion in this case, and also on the ground that the answer of the witness on page 27 is not responsive to the question. I move to strike the answer.

The Court: It is my opinion the question is appropriate. What have you to say as to the objection to the answer, Mr. Hokanson?

Mr. Hokanson: Over his objection, I will withdraw the question and have the answer stricken.

The Court: It is so ordered.

“Q. Well, the question I put, Mr. Gallagher, and maybe I did not make myself too clear, not being an engineer; If there were contaminated lube oil, which was contaminated to a sufficient extent to cause galling of the time gears, would it or would it not, in your opinion, affect other bearings and other working parts of the engine?

A. If the lubricating quality were destroyed, why the lube oil would not perform its function, and I believe we would have serious consequences.

Q. Well, to put it another way: If you found that the galling of gears had occurred only in the timing gears, and not in the other bearings and

(Deposition of Frank H. Gallagher.)

working parts of the engine, would it or would it not be your conclusion that the galling of the timing gears had been caused by contaminated lube oil?

A. Not necessarily; if the timing gears are lubricated by means of a jet——

Q. Was that the case in this ship?

A. I don't remember. I have been on many, many ships since [1500] that time, and it is just another job to me; just another ship.

Q. You may continue.

A. If the lubricating oil was delivered to the timing gears by the installation of jets, why the jets could plug up, or the position of the jets could be altered, due to some mishap.

Q. Now you have stated, Mr. Gallagher, that this was just another ship to you. Do you know where the owners obtained the "Urania" or from whom they obtained it?

Mr. Collins: I will object to that as hearsay.

Q. Just answer whether or not you know.

A. No, I do not.

Q. At the time you made your inspection was there any indication to you of leakage into any of the lube oil leads in the engine?

A. If I remember correctly, the lubricating oil coolers were taken from the vessel, cleaned and replaced, and being part of the lubricating oil system, of course, why they were checked while in operation, and undoubtedly during the many times of dock trial runnings of the engine.

(Deposition of Frank H. Gallagher.)

Q. Is there any way that you can describe to us from your familiarity with this vessel and similar engines that there might be leakages of sea water in the cylinders of the engines?"

Mr. Howard: I waive the objection. [1501]

"A. Yes, if this engine, the cylinders of this engine, are cooled with sea water.

Q. Do you recall whether that was the case in the "Urania"?

A. No; I believe, if I remember correctly, that with the "Urania" the cylinders were cooled with what we call a heat exchange system, whereby the cooling agent, as far as the engine is concerned, is passed through a cooler, and salt water being the cooling medium, on the other hand, would be passed also through the cooler; a tube division forms the separation. If the cooler were to fracture, or the tube were to break, whichever side had the greatest pressure,—By that I mean, that if the cooling water passing through the engine cylinders was being forced through there at 30 pounds to the square inch, and the cooling water, or perhaps, we will say, the sea water, in this case, was being circulated through the cooler at 25 pounds per square inch, we would lose our fresh water, and after having expelled all that water why the sea water, being the greater quantity, would have entered the system.

(Deposition of Frank H. Gallagher.)

Q. Now in your inspection did you examine the oil leads into the cylinders?

A. You mean the lubricating oil leads?

Q. Yes, the lube oil leads?

A. There are no lube oil leads into the cylinders. There are cylinder lubricators which furnish cylinder oil to the [1502] walls of the liner. They were examined as far as the external connections are concerned, and they were found to be in order.

Q. There is a charge made in this action that the lube oil leads into the cylinders were not tight.

A. That I do not know.

Q. Do you know anything about that?

A. No, I didn't. That is something that is up to the vessel's personnel to report upon.

Q. Was there anything in your inspection that indicated, at the time of making that inspection, that that situation existed?

A. No, there was not.

Q. Were you looking for such a situation?

A. Such a situation normally would be drawn to a person's attention by a condition which would have appeared; otherwise, why it is something that you cannot see. In other words, it is entirely enclosed in the cylinders.

Q. Now on this inspection that you made, was the chief engineer of the ship in your company?

A. Many times.

Q. Was he in your company during the sea trials?

A. Indeed he was.

(Deposition of Frank H. Gallagher.)

Q. And were there any complaints about the motor, or other parts of the ship, within the province of your inspection, [1503] that were made by the chief engineer and not corrected, to your knowledge?"

Mr. Howard: I will waive the objection.

"A. No, not to my knowledge. We both, of course, agreed about the timing of the engine.

Q. Is it a fair statement to make then, Mr. Gallagher, that with respect to the condition of the lube oil leads into the cylinders, that that would be a matter peculiarly within the knowledge of the ship's crew?

Mr. Collins: The same objection, to it being a hypothetical question."

Mr. Howard: I object to that as a leading question and not a proper question to ask the opinion of this witness on on a hypothetical basis. There are not sufficient assumptions, if the Court please, in that question to allow the witness to make a fair appraisal of the situation existing on the Tanker Urania.

Mr. Hokanson: I am willing that the question be withdrawn and that the following questions which relate to the same matter be withdrawn. [1504]

(Deposition of Frank H. Gallagher.)

“Q. Now you have mentioned the heat exchanger. Were the heat exchangers on this vessel inspected and checked by you?

A. I saw the heat exchangers, I believe, up in the machine shop. I am quite certain they were taken off the vessel, and they were adjusted up there, and, of course, later on, why they were placed in operation aboard the ship.

Q. Were they in operation during your sea trials? A. They were.

Q. And have you anything to say as to how they were operating on that sea trial?

A. The temperature results obtained by the use of the coolers was satisfactory.

Q. In the course of your inspection was it either your duty or the actual fact that you checked all lines and pipe leads—— A. No.

Q. ——and other elements involved in the cooling system? A. No, no.

Q. And did Mr. Williams, or anyone else on behalf of the ship owners point out any difficulty or any defect in the heat exchangers during the sea trial, and during your inspection, which were not corrected?

Mr. Collins: Objected to as hearsay.

A. No.

Q. Are you familiar with the operation on long sea voyages of the type of engines as was in the “Urania”? [1505]

(Deposition of Frank H. Gallagher.)

Mr. Collins: Same objection; he has not qualified as an expert. A. No, I am not.

Q. How many years at sea did you have, Mr. Gallagher? A. About ten.

Q. And in the course of those years at sea did you gain any experience as to the effect of vibration, on long sea voyages, upon such parts of an engine as the oil leads in the cylinders? Will you answer that "yes" or "no." A. "Yes."

Mr. Howard: I move to strike the rest of the answer after the word "yes" as not responsive to the question.

The Court: The interrogator asked the witness to confine it to yes or no. The rest of it, after "yes", is stricken.

"Q. And is there, in such cases, any reaction or action by the motor which would serve as a warning to the operator, or to the engineer, we will say, in charge of the motors or the engine?

A. Before, as a general rule, an action is set up which would notify the operator of a condition developing,—In other words, before, in my opinion, complete break-down would [1506] result, why the cause thereof would have been progressive.

Q. And what indications would you normally expect? Let me put the question in another way:

(Deposition of Frank H. Gallagher.)

What devices or other evidence of the defect would be present to show an engineer that there was some defect in the operation of the engine?

A. As far as the cylinder lubrication is concerned?

Q. Yes, that is correct.

A. Such a condition would be audible, and perhaps if the heat conditions was great enough why there would be a slowing down of the engine.

Q. Are there any meters or indicators of any kind by which an engineer can tell whether or not there is some interference with proper lubrication of the cylinders?

A. Yes, there is. That is, as far as what is indicative of what would be taking place within the cylinder itself. To my knowledge there are no instruments which would actually give a tell-tale on the surface that the lubricating oil or cylinder oil is carrying out. However, the amount of cylinder oil going into each cylinder is visible, as most of the lubricators installed do have a sight-glass which will show the drops of cylinder oil being forced into the lubricating lines. The sight-glass serves two purposes, one being to show the oil is passing through the medium, which is usually glycerin, and the other purpose being to time the amounts of oil by drops each minute as it is being injected into the cylinder.

Q. There is, then, a visual means by which an engineer can tell?

(Deposition of Frank H. Gallagher.)

A. There is a visual means, on the admission.

Q. Now assuming that there was water leakage into the oil in the crank-case, were there any instruments on the "Urania", if you recall, that would give an indication to the crew?

A. Water being dumped into the lubricating oil?

Q. Yes, of water leakage into the lubricating oil, in the crank-case?

A. To the best of my knowledge I know of no provision providing for ready-at-hand, notice of such a condition if it were occurring. Of course they could by sounding the sump tanks at various intervals, and if an appreciable amount of water entered the lube oil why it would be noticed. That is, by actual sounding.

Q. Now, would any disruption of the lubricating system in any way affect the temperature of the engine, which might be reflected by indicators or instruments?

A. Yes, if I am correct in the belief,—I believe that there were lubricating oil thermometers attached to the engine giving the inlet and outlet temperatures of the lubricating oil. If the lubricating oil broke down, as far as viscosity s concerned, why damages would occur." [1508]

Mr. Howard: I move to strike the answer as not responsive.

(Deposition of Frank H. Gallagher.)

Mr. Hokanson: I believe it is responsive.

Mr. Howard: I will withdraw my motion.

“Q. And would there be anything to warn the crew of the vessel, or the person in charge of those engines, that there was some interference with the proper lubrication, besides the audible means you have mentioned?

A. No. Again, to my knowledge, I know of no audible means to notify the crew.

Q. When you said there were audible means, earlier, by that what did you mean?

A. Audible means; by that I referred to the condition developing from lack of lubrication. That is, on cylinder lubrication, which is entirely different from that of the lube oil system lubrication.

Q. All right. On cylinder lubrication what would be the audible indication that there was something wrong?

A. When the lubricators failed, or the lubricator failed to deliver the required amount of cylinder oil to the cylinder or cylinders we would have the condition of heat, which, of course, would be caused by or as a result of friction between the piston rings and the cylinder liner, and as a [1509] result of this condition why there is a strong possibility of eventual seizure of a piston; seizure, of course, in some cases could mean the actual slowing down of the

(Deposition of Frank H. Gallagher.)

engine to the point of where the piston and the piston trunk fractured.

Q. Would this audible means to detecting some disruption of the lubricating system of the cylinders be what we land-lubbers call a "knock in the motor"?

A. No, I believe not. A knock is usually a condition caused by pressure, which is entirely different from that caused by or as the result of friction.

Q. Would the seepage of water into the lubricating oil be likely to cause a knock in the motor?

A. It is quite possible.

Q. If a knock did develop in the motor while the vessel was under way, or by other audible means the engineer was shown, or other visual means the engineer was shown that his engine was not operating correctly from the standpoint of lubrication, what does good seamanship and engineering dictate under those circumstances, if you care to say?

A. For a knock developing in an engine?

Q. While under way?

A. While under way?

Q. Yes.

A. The sensible thing to do is to stop that engine and investigate. [1510]

Q. And do you know whether or not such a condition can or cannot be cured at sea, or improved at sea?

A. That is rather expecting too much. In other

(Deposition of Frank H. Gallagher.)

words, I would appreciate the question being made specific.

Q. Let me put the question this way, Mr. Gallagher: If by audible or visual means the engineer is advised that there is something wrong with the operation of the engines while under way, what measures should be taken, in your opinion, upon determining that fact?

A. If the sound is coming from within the enclosed portion of the engine, the engine should be stopped and an investigation carried out to ascertain the cause of that. This knock, however, could be caused by fuel pressure or it could be the result of a burnt-out bearing, misalignment, or many, many things.

Q. Well, would a failure to take steps to correct such a condition, when it was first determined, assuming that it was determined in the early stages of the development of such a condition, cause damage to the engine by continuous use with the defect existing?

A. Well, there again we are not specific.

Q. What I mean, Mr. Gallagher, is this: Does it add greater damage to continue to run the engines after such a knock has developed?

A. Yes, I believe so. [1511]

Q. And would early treatment, or early repairs, prevent further damage?

A. Yes.

Q. So that to permit it to continue, knowing

(Deposition of Frank H. Gallagher.)

that it was there, would cause greater damage to the engine than if an early repair was made?

A. Yes, I believe such a condition should be corrected.

Q. And in your opinion, and from your experience, does good seamanship dictate that such steps be taken when a defect in the engines has been detected; while under way? A. Yes, that's true.

Q. And would a failure to take those steps result in continuous damage to the engine by its continuous use with such defects? A. Yes, it would.

Q. Now, in your sea trial did you find anything in these engines which indicated to you the necessity of making repairs to eliminate the defects that could be detected either by audible or visual means?

A. No, other than timing we found the engine equipment to be quite satisfactory.

Q. And I take it from your earlier testimony that the defective timing was repaired to your satisfaction? A. That was corrected.

Q. Mr. Gallagher, I don't recall whether you have answered [1512] this question or not: Can high pressures in any way cause leaks to pipes carrying coolants to heat exchangers?

A. Yes, of course.

Q. And in your opinion could that develop while under way in a ship which had left port with its heat exchangers and cooling system in good condition? A. Yes, it could.

Q. Where would this pressure come from?

(Deposition of Frank H. Gallagher.)

A. The pressure could be increased by the closing in on the discharge side of a pipe or cooler, where we would, of course, build up a volume and then consequent pressure, and damage could result from the pressure which was placed upon a cooler or pipe which was in excess of that pressure which the cooler or pipe was designed for.

Q. Mr. Gallagher, assuming the following to be the fact: That a ship put out of Port Angeles, Washington, and went to Manzanillo, Mexico, with the following defects in its engine system: Air-locking in the telemotor system, causing oscillation; loose lube oil leads into cylinders, which permitted leakages of sea water into those cylinders; heat exchangers that were dirty and leaking badly; timing off, so that the wedges pulled out; leakage into the crank-case of sea water; leakage in the pipes carrying the coolant to the heat exchangers. Would such vessel, in your opinion, be able to negotiate the trip from Port Angeles to Manzanillo, Mexico, [1513] without a breakdown?"

Mr. Howard: I will object to that hypothetical question on the basis of there being no evidence to establish any air-locking in the telemotor system; no evidence to establish leaking of sea water into the cylinders, the fact being from the evidence, as I recall, it was fresh water that entered the cylinders; and further on the ground that there is no

(Deposition of Frank H. Gallagher.)

evidence, as I recall, of timing being off so that the wedges were pulled out.

Mr. Hokanson: I will stipulate that the question may be withdrawn on the ground it doesn't incorporate proper considerations.

“Q. Did you inspect the fire, bilge and sanitary pumps? A. Yes, we did.

Q. Did you find those satisfactory?

A. Yes, we did.

Mr. Hokanson: At this point I believe it was agreed between counsel that further direct examination could be had following cross-examination of the testimony [1514] up to that point.

“Cross-Examination

By Mr. Collins:

Q. Mr. Gallagher, do you recall the last date on which you saw this ship?

A. Yes, I do. I believe it was on a Friday or a Saturday.

Q. Do you recall the date?

A. My report indicates October the 9th as being the last date of attendance.

Q. Do you know what date the ship left the yard? A. I don't know the exact date, no.

(Deposition of Frank H. Gallagher.)

Q. Do you know whether after the sea trial there were any additional dock trials or other trials?

A. The main engine was operated, and that is all that I was concerned with.

Q. It was operated on a dock trial, was it?

A. I would not call it a dock trial. The engine was revolved. As far as an actual dock trial, such did not seem to be necessary, nor was it requested.

Q. Was the engine revolved by hand or mechanically? A. Mechanically.

Q. Was the engine actually operating?

A. Yes.

Q. At the time of this inspection of this ship, the surveying [1515] of the ship, were there other ships that you were also surveying?

A. Yes, there was.

Q. Do you recall how many ships there were?

A. I would say off-hand—Do you mean in the period of my first to last visits?

Q. Yes. A. Oh, I would say maybe 15.

Q. Could you give us the average of how many ships you were surveying simultaneously? When you say 15, I assume the ships came and left?

A. That is correct.

Q. Could you strike an average as to the number of ships that you might be surveying at the same time?

A. Well, do you mean during a single day?

Q. At any given period, yes.

A. Well, it is all determined by the nature of the

(Deposition of Frank H. Gallagher.)

work, dealing with a specific attendance. I have boarded and carried out surveys of a condition offered on as many as seven ships in one day.

Q. You therefore did not spend full time on any day on any ship?

A. In the case of the "Urania" I have put in, I believe, no more than two full days; that is, two days of an attendance wherein I devoted myself exclusively to the "Urania". [1516]

Q. Do you know whether any work was performed in the yard after your survey,—after your report of survey?

A. My report closed on October the 9th, which indicated that was my last visit, and work subsequent to that date I was never advised of.

Q. Do you know when the ship left the yard?

A. I heard that it did leave about the 16th of October.

Q. So if anything occurred on the ship after the 9th, the date of your report, you knew nothing of it?

A. That is correct.

* * *

Q. Do you recall the date of the sea trial? I believe you said it was October the 6th, is that correct?

A. Oh, the 6th, 7th or 8th; somewheres around there.

Q. Do you recall the weather conditions on that date?

(Deposition of Frank H. Gallagher.)

A. The weather conditions were, I believe—they were good.

Q. Where did the trial take you?

A. We operated in Puget Sound, leaving from the ship repair plant at Winslow, and returning to Winslow.

Q. Not being familiar with the geography of Puget Sound, did that take you out into the ocean, as such, or were you confined at all times to the bay area?

A. We were confined to Puget Sound, and not necessarily the bay.

Q. Do you recall what the sea conditions were on that date? [1517]

A. So far as I remember, why good conditions prevailed.

Q. By “good conditions” you mean a fair sea?

A. That is correct.

Q. Was the ship turned for the purpose of checking the compass?

A. I believe that was carried out. However, that is none of my concern.

Q. You have no definite recollection of that at this time? A. No, sir.

Q. Now during the period of this run was the steering ever shifted from mechanical to manual?

A. Yes, I believe that the emergency means of steering provided was operated, and I personally witnessed the hard-over and hard-over operation of the rudder.

(Deposition of Frank H. Gallagher.)

Q. Do you have a definite recollection of that ship being operated by hand-steering on that run?

A. Yes.

Q. Do you recall how long you operated on hand-steering? A. No, I do not.

Q. You testified with respect to the bulkhead and ammunition locker. Do you have any recollection as to whether that compartment was above or below the weather deck?

A. I believe it was above the weather deck.

Q. But you have no definite recollection?

A. No, sir, I don't.

Q. How long were you assistant chief engineer?

A. As an assistant engineer, I would say about seven years.

Q. Did you ever fill the chief's spot, as such, or did you ever sign on as chief engineer?

A. For a stand-by period, yes.

Q. How long was that period?

A. Just a matter of weeks.

Q. Under way or in port? A. Under way.

Q. Will you tell us something about the inspection that you make in connection with this type of survey. You inspect the ship on arrival and then at the completion of the job, and periodically during the period when the ship is being surveyed, when the job is being performed, is that it?

A. Yes, that is correct.

Q. Is it your job on such an inspection to inspect or to report upon any conditions that might exist

(Deposition of Frank H. Gallagher.)

other than those which are to be specifically covered in your report?

A. We confine ourselves, or, rather, I confine myself to surveys dealing with classification, when requested, and carry out a survey for classification.

Q. And this type of survey was a classification survey, is that correct? A. Yes, sir.

Q. There are a number of ways in which lube oil is cooled; various types of cooling systems for it? [1519] A. Yes, that is true.

Q. Would you be able to tell us how many types there are; a rough classification?

A. Well, we could have—in general, I wish to state that as employed aboard ship—shipboard, it is pretty much the same. By that I mean that we have a tubular cooler wherein the sea water passes through either one, or perhaps two or three; more frequently two than three—it passes through the tubes and the lubricating oil is introduced usually at the top of the cooler and passes over the surface of the tubes, guided by baffles.

Q. Is it correct that in the determination of whether or not there might be leakage of water in the cylinders it would be necessary to determine exactly how the cooling system operates on a particular ship, in order to give an opinion as to the cause of the leakage?

A. That is rather—not difficult to answer, but it is rather hard to frame a reply, insomuch as with reference to a leak, a leak of a minor nature would

(Deposition of Frank H. Gallagher.)

not be readily observed, and a condition of breakdown of the lubricating quality would be very progressive. A sudden rupture in the quality of the lubricating oil could take place readily if a tube or tubes failed completely.

Q. But that is something you would have to determine upon observation, is that correct? [1520]

A. That is very true.

Q. Do you recall whether on the "Urania" the lube oil system had sight-glasses? A. No.

Q. You have no definite recollection?

A. No, I cannot recollect.

Q. Do you recall whether there were lube oil thermometers? Do you have any definite recollection of it?

A. I am quite certain there were thermometers provided.

Q. Is that answer based on the assumption that that is a standard equipment?

A. That is correct.

Q. But you have no specific recollection?

A. I do have a—I am quite certain of having a specific recollection.

Q. Now is it not true as to the engine, conditions at sea may be such that an engine may break down for many causes? A. That is true.

Q. And is it not true that in order to determine the cause of the breakdown it is necessary to know all the essential factors that go into it?

A. Absolutely.

(Deposition of Frank H. Gallagher.)

Q. Isn't it also true that it is very difficult to tell on shore exactly what might happen or what might have happened at sea unless you have had an opportunity to examine the [1521] people who would know, at sea? A. It is.

Q. And therefore is it not correct that any answer which might be given to a question in connection with breakdowns would necessarily—to a certain extent, at least, be a hypothetical answer, depending perhaps on the resolution of certain questions which you might have only in your mind, one way or the other?

A. Specificness is required.

Q. Is it true, Mr. Gallagher, that in connection with the answers that you have given to the various questions proposed to you that there may have been factors existing on board the ship of which you are not presently aware, the knowledge of which might have caused you to give a different answer?

A. I believe my replies to the questions were based upon the examination of the machinery, and my thoughts go back to the time of such examination, and many things could occur, which of course brought these conditions forth, which were a result of failures. Insofar as my examination was concerned, if the general satisfactory conditions existed and continued to exist as was found existing at the time of my survey, why I don't believe such a failure from such normal function would have occurred.

Q. Then would it be correct to say that correc-

(Deposition of Frank H. Gallagher.)

ting the timing which you found deficient on the sea trials—that [1522] the answers to your questions were based upon the situation as you observed it at the time of the sea trials?

A. That is correct.

Mr. Collins: That is all.

* * *

Direct Examination (Resumed)

By Mr. Waddoups:

* * *

Q. Mr. Gallagher, in response to a question put by Mr. Collins you stated that before a definite answer can be given as to the reasons for certain things happening at sea you must know all of the factors involved? A. That is correct.

Q. Would one of those factors be the manner in which the vessel was operated and maintained by the crew?

A. Maintenance, of course, is a subject which is purely one of concern between the company operating the vessel and the personnel they place aboard, and as we are not a regulatory body, inasmuch as the operations are concerned, I feel that it would not be proper for me to pass a remark.

Q. Well, Mr. Gallagher, I didn't mean by this to ask you to pass any remarks on the specific crew. What I am driving at is this: Can a vessel in seaworthy condition leave a port in that condition, and because of improper maintenance and operation by its crew be rendered unseaworthy? [1523]

(Deposition of Frank H. Gallagher.)

A. Very definitely.

Q. Therefore the extent to which a vessel might be damaged, or the extent to which further damage might be prevented, could depend upon the operation and maintenance of that vessel by the crew?

A. That's right."

Mr. Hokanson: At this point apparently a survey was handed to the witness.

Mr. Howard: It is already admitted, counsel; it is Mr. Dupuy's survey.

Mr. Hokanson: That would be A-22, Your Honor.

* * *

"Q. Calling your attention to the portion of that report of survey under the caption "Found," do you find any defects there which were evident to you upon your inspection of the vessel in Puget Sound?

A. No. I do not know of such a condition existing.

Q. Have you any opinion, Mr. Gallagher, as to the cause of the defects described there?

Mr. Collins: Again, for the purpose of the record, I wish to note a continuing objection to all opinion questioning. [1524]

Mr. Howard: I object to that question as not giving the witness any basis for the assumptions

(Deposition of Frank H. Gallagher.)

other than the reading of the report, this exhibit that has been handed to him. The witness has testified he didn't see the ship after October 9.

Mr. Hokanson: If counsel objects, I will agree that the question and the material relating to this exhibit may be stricken.

“Further Cross-Examination

By Mr. Collins:

Q. As to the leaks that are mentioned in the last survey, Exhibit number 4, were those leaks that would be observable other than when the engine was operating?

A. Then, again, we go back to the means offered for such detection. As I have previously stated, if the amount of leakage was great an abrupt condition would occur.

Q. No; perhaps I did not make my question clear. The condition mentioned in the survey became apparent to the surveyor upon inspection?

A. That apparently is so.

Q. Would such a condition be observable when the engine was not operating? That is to say, in making your inspection would you observe such a condition to exist other than during the sea trial?

A. The surveyor found a condition which in view of the reported leaking coolers was ascertained to be as a result of the leaking coolers, and the condition as previously stated did not exist.

(Deposition of Frank H. Gallagher.)

when I made the survey of the vessel, and I have not perused the engine log, and I believe such examination would indicate whether this condition was abrupt or whether it was progressive.

Q. When a ship comes into the yard and you are surveying it, do you inspect the log of the ship before making your survey?

A. No, we don't unless we are attending the vessel for the purpose of carrying out a damage survey.

Q. Then the type of inspection you make would be a visual inspection, or by the use of such tests that might be required to determine the condition?

A. When I am attending a vessel for the purposes of classification I do not request an examination of the log books, and I do then carry out my survey by visual examination, and also the testing of parts requiring tests.

Q. Could you observe leaking fluids other than when the ship was under way?

A. As a general rule, and as I previously stated, the oil pressure is greater going through the lube oil tubes than the cooling agent, and frequently such a leakage is detected by the observations of the cooling medium being passed overboard. If a leak is in one of the coils or the tube sheet [1526] and the lube oil pressure being greater than that of the cooling agent, will pass lube oil into the cooling agent, which in turn will pass overboard, and a film of oil would be detectable.

(Deposition of Frank H. Gallagher.)

Q. That would only be observable when the main engine is running, is that correct?

A. No, that is not so. You can circulate your lubricating oil whether the main engine is operating or stopping.

Q. Was that done?

A. It may have been done, but I personally did not do so.

Q. What tests, if any, did you make to determine as to whether or not there was a leak in the fluid?

A. The lubricating oil coolers, as previously stated, I believe were removed from the vessel, and were cleaned in the plant of the Commercial Ship Repair, and they were also tested, and I believe that I did witness a hydrostatic test of the coolers, and, of course we would judge their later operation by the visual means of function. That is, by the observations of temperatures, which I believe were detected by the installation of thermometers.

Q. When the main engine was not operating?

A. Well, of course I concern myself now to the operation of the vessel during the sea trial period.

Q. Then is it correct to say that the only tests that were made in the yards were the tests that were made in the shop, [1527] and such tests as might have been made while the ship was in the sea trial?

A. As a general rule that is the only test that is ever given a heat exchanger. It is no different from the radiator on your car, which is tested in the factory, and you operate it.

(Deposition of Frank H. Gallagher.)

Q. And you have no definite recollection as to whether you observed the test made in the shop?

A. I cannot be specific to state whether it was one cooler or two coolers; I don't remember. However, I do remember witnessing a test on a cooler, which, of course, it could be the entire cooler, or lubricating oil cooler, but as previously stated the "Urania" to me was just another ship, and I cannot really bind myself too closely to this portion of equipment.

Q. You mentioned, on a number of item, on the subsequent survey, that the surveyor's opinion was a matter of opinion. A. That is correct.

Q. May I ask this: How frequently do you make a survey of the classifications specified in this report?

A. Every four years, with the exception of the annual boiler and annual classification and International load line surveys. Those surveys, as I have enumerated, are carried out every year.

Q. Now when you pass an item as being satisfactory, does that mean that in your opinion that item will stand up until the next survey? [1528]

A. That means that the equipment, as found at the time of my examination, was satisfactory at that time.

Q. But that condition may change the next day? That is, depending on the operation?

A. That condition may change by mis-use, over-use and poor handling.

(Deposition of Frank H. Gallagher.)

Q. Or there may be an inherent defect that you might not have observed, is that correct?

A. That is quite possible.

Q. Then when you say, for example, that the telemotor is satisfactory, you base your opinion, do you not, upon observation of the various parts, their apparent soundness, and its operation during the period of the sea trial? A. That is correct.

Q. But you in no way guaranty that those parts, as so constituted, will withstand continued use for any set period at all?

A. We are not a body that makes any guaranty. We formulate and give opinions.

Q. And in that opinion there is no estimate of the probable life of the particular parts?

A. In the opinions around the items referred to, no.

Mr. Collins: That is all.

Redirect Examination

By Mr. Waddoups: [1529]

Q. But in those opinions, Mr. Gallagher, do you, before giving the opinions, consider whether or not the parts which you have given an opinion on are in sufficiently good order as to be seaworthy?

A. Quite definitely; they are in our opinion sound. By "sound" I mean structurally sound.

Q. And are capable of serving all purposes for which they are installed on the vessel?

A. For which they are intended; that is correct.

(Deposition of Frank H. Gallagher.)

Recross-Examination

By Mr. Collins:

Q. You mentioned in the subsequent survey that the matters of opinion specified might or might not coincide with your opinion.

A. The subsequent surveys, or the remarks made in the subsequent surveys, in my opinion are remarks which I feel that I would concur with in view of the conditions which are noticed in those surveys.

Q. On some of the items you said it was a matter of opinion; is that right? A. That is correct.

Mr. Collins: That is all.

Redirect Examination

By Mr. Waddoups:

Q. That is, as to the replacements? [1530]

A. They were not considered as a part of the survey, because, again being specific, I do not believe that I saw too many of the items referred to in Exhibit 4 as coming under the invoice.

Deposition Closed"

Mr. Hokanson: That concludes the deposition of Frank H. Gallagher. Cross respondents now offer the same in evidence.

The Court: That deposition is received as a part of the cross respondents' rebuttal.

Mr. Hokanson: At this time, Your Honor, cross respondents rest.

The Court: Is there any surrebuttal?

Mr. Howard: As rebuttal on the cross libelant's case, we have one witness.

The Court: Court will be in recess for ten minutes.

(Recess)

STANLEY A. LUND

recalled as a witness by and on behalf of respondent, having been previously duly sworn, was examined and testified as follows: [1531]

Direct Examination

By Mr. Howard:

Q. You are Mr. S. A. Lund? A. Yes.

Q. Are you still employed by General Steamship Company? A. Yes.

Q. At Seattle? A. Yes, sir.

Mr. Howard: I would like to have this piece of machinery marked for identification.

The Court: You may do so.

(Piece of machinery marked Respondent's Exhibit A-29 for Identification.)

Q. I will ask you if you have ever seen that piece of machinery before? A. Yes, I have.

Q. Whereabouts?

A. It was received in our office last week.

Q. You are referring to the Seattle office of General Steamship Corporation? A. Yes.

(Testimony of Stanley A. Lund.)

Q. To whom was it consigned?

A. It didn't have any markings on it when it came in, but the waybill number was the only identification it had on it. [1532]

Q. Did that show whom the consignee was?

A. To my knowledge, no, but Mr. Antippas gave me that information as the waybill number of the box that was carrying this thing up here from the vessel.

Mr. Hokanson: I object to the answer to that question as based upon what somebody else told him.

The Court: Sustained.

Q. In what manner was this piece of machinery delivered to your office?

A. It was delivered via Northwest Airlines, boxed.

Q. Were you present when it was uncrated?

A. Yes, I was.

Q. Who else was present?

A. Mr. Antippas.

Q. Did Mr. Antippas state to you what the machinery was?

Mr. Hokanson: I object to that.

The Court: Sustained.

Q. Do you know what the machinery is?

A. After having been told, yes. After I had seen it—I know what it is now. I have never seen one before, though, up until last week.

Q. What is it?

Mr. Hokanson: I object now. The witness says

(Testimony of Stanley A. Lund.)

he knows what it is after having been told. [1533]

The Court: He also said he never saw one before. I understood him to say that as a part of his answer.

Mr. Howard: He says he knows after after having seen it.

The Court: He said he never saw one before. The objection is sustained.

Q. Where has the machine been since it arrived at your office?

The Court: If he knows.

Q. If you know?

Mr. Hokanson: I don't know what Mr. Howard proposes to prove by this exhibit, but I think he should make an offer of proof at this time to fore-shorten this.

Mr. Howard: I will be glad to do that at this time.

The Court: You may do so.

Mr. Howard: In the case of the cross respondent, the Commercial Ship Repair called one J. D. Gilmore as a witness, who in response to certain questions stated that he was familiar with Harrison type oil coolers, and in response to other questions Mr. Gilmore stated that in his opinion it would be impossible for leaks to occur from the salt water side to the oil side of a Harrison type cooler, for the reason that there is a gasket covering the soldered seam around where the core of the cooler is attached to the housing of the cooler, and that that gasket and the cover which fits over the

(Testimony of Stanley A. Lund.)

gasket [1534] would cover the soldered seam in such a fashion that it would be impossible for leaks to occur through the soldered seam while the covers were in place so as to allow salt water to contaminate the lubricating oil.

Mr. Hokanson: May I interrupt? Mr. Howard is now making an argument. He is not under oath. I asked for an offer of proof as to what this exhibit is. What Mr. Gilmore had to say about another type of heat exchanger has nothing to do with what this particular exhibit is and how it is to be admitted.

The Court: The objection is sustained.

Mr. Howard: I make an offer of proof by this exhibit, which has been marked for identification, that the gasket and cover do not cover the soldered seam between the core and the housing of the Harrison type heat exchanger model aboard the Tanker *Urania*, so that the assumption which the witness Mr. Gilmore was making and which, if the Court please, was also made by the witness Blumberg who testified Saturday and this morning, that leaks could not occur because of the gasket covering the seam—I offer to prove by this exhibit that that is a physical impossibility, and that the heat exchanger would speak for itself in that respect.

Mr. Hokanson: Your Honor, Mr. Howard's last remarks are again argumentative. He is not under oath. [1535] He proposes to prejudice our case by offering an exhibit which he knows cannot be introduced properly at this time. He wants to leave the

(Testimony of Stanley A. Lund.)

inference that someone that we have previously called has testified falsely.

I submit, your Honor, he had the opportunity of introducing this exhibit in his case in chief, and when we undertook to introduce a Harrison type cooler on Saturday last, or Thursday, Your Honor will remember that Mr. Howard objected, and we agreed that the exhibit would be withdrawn.

The Court: Have you an attitude towards this offer of proof?

Mr. Hokanson: My attitude is this: he hasn't stated properly how he proposes to establish what this exhibit is, and what its relevancy is in this case.

The Court: The Court is not sustaining the objection. You may proceed to try to authenticate the exhibit.

Mr. Howard: I will make this further statement at this time, if the Court please, that Mr. Antippas was on the stand last week, at which time he testified that after his arrival at Seattle, this cooler was received.

At the time, we were dealing with a stamped pressure that was reported to be stamped on the cooler, and I asked the witness at that time if the cooler had [1536] been shipped out from the ship. As I recall, his testimony was it had been removed from the ship and shipped out to him at Seattle, and that this is the cooler that was shipped to him

(Testimony of Stanley A. Lund.)

from the ship at a Mississippi River or Louisiana port.

The Court: I do not believe, over objection, you will be able by hearsay, saying what one said at one time and another, to identify it, but you are at liberty to ask legitimate questions.

Mr. Howard: The testimony I am referring to is in the record, in Mr. Antippas' testimony last week.

The Court: You may proceed. We have lost this time now with the offer. However, it was done in good faith, I realize that, but we have nevertheless lost the time. Proceed trying to prove the exhibit, if you wish to.

Q. Were you present when the covers were removed from this piece of machinery?

A. Yes, I was.

Q. Who removed them?

Mr. Hokanson: He is trying to identify this exhibit. These questions relate to something that was done to the exhibit.

The Court: The objection is overruled.

Q. Do you recall the last question? [1537]

A. Yes.

Q. Can you answer that?

A. Yes. I was there off and on when it was being disassembled.

Q. Who removed the covers?

A. Mr. Antippas, and I believe Mr. Le Gros.

Q. Where was the cooler at that time?

(Testimony of Stanley A. Lund.)

A. It was in our office at General Steamship.

Q. When did you last see it in your office?

A. Friday morning.

Q. Did you work on Saturday?

A. No, I did not.

Q. Were you down in your office on Saturday?

A. No, I was not.

Mr. Howard: At this time, if the Court please, I offer this exhibit and would like to make this statement, that we have the testimony in the record of Mr. Antippas last week as to the cooler having been shipped out to him, and I have undertaken to establish by this witness who is on the stand at the present time that this is the cooler that was received in his office, and this is the cooler that the covers were removed from by Mr. Antippas during the last few days of last week.

The Court: What is the history of the article you refer to as having been in that manner identified by [1538] Mr. Antippas.

Mr. Howard: The history?

The Court: The history so far as the testimony shows.

Mr. Howard: So far as the testimony shows, I submit to your Honor that Mr. Antippas testified that he had arranged to have the lubricating oil cooler removed from the tanker upon its arrival in a Mississippi port, and had arranged to have it shipped to him in Seattle, and in that connection he was testifying as to a pressure stamp on it.

(Testimony of Stanley A. Lund.)

The Court: The shipping papers would, over objection, have to be used to identify the shipment, and then you would have to have someone identify what was shipped at the other end of the line.

Q. Do you have with you any shipping papers on this?

A. I have a waybill that was received.

Mr. Howard: May it please the Court, in order to shorten this as much as possible, I would like at this time to call your Honor's attention to General Admiralty Rule 46-B, reading as follows:

"If an objection to a question propounded to a witness is sustained by the Court, the latter, upon request, shall take and report the evidence in full unless it clearly appears that the evidence is not admissible [1539] on any ground or that the witness is privileged."

That rule, if the Court please, applies according to its term to a question propounded to a witness, but I submit the same would be true insofar as an exhibit is concerned as would be true of the verbal testimony of a witness.

I make that statement at this time only in an effort to shorten the argument, as far as the admissibility of this particular exhibit is concerned.

The Court: You may proceed to prove the shipping documents.

Mr. Howard: I would like to have this document marked for identification.

1700

2322
15766
IDENT EXHIBIT
checked
9-30

NORTHWEST AIRLINES, Inc.

UNIFORM AIRBILL
NON-NEGOTIABLE



DOMESTIC AIR FREIGHT SERVICE

AIRBILL NUMBER (ISSUED BY CARRIER)

12 06 TTB 1175 00PT

FROM (CONSIGNEE) CONSIGNEE'S STREET ADDRESS CITY ZONE STATE		TO (CONSIGNEE) GENERAL STRANSHIP CO. CONSIGNEE'S STREET ADDRESS 1211 - 4th AVE. CITY ZONE STATE	
BY X		CONSIGNEE'S No.	
DECLARED VALUE		ROUTING: <input type="checkbox"/> SHIPPER'S <input type="checkbox"/> AIRLINE	

RECEIVED BY CARRIER AT (CHECK ONE)		CHARGES (CHECK ONE)		DELIVERY	
<input type="checkbox"/> CONSIGNEE'S	<input type="checkbox"/> CITY TERMINAL	<input type="checkbox"/> AIRPORT TERMINAL	<input checked="" type="checkbox"/> COLLECT	<input type="checkbox"/> PREPAID	<input type="checkbox"/> CITY TERMINAL
				<input type="checkbox"/> AIRPORT TERMINAL	
No. of Pieces	DESCRIPTION OF PIECES AND CONTENTS	WEIGHT	RATE	CHARGES	
1	WOODEN BOX MACHINERY	156			
INSTRUCTIONS TO CARRIER		00PT			

IMPORTANT. Write or print clearly. Carrier will complete all items below bold line, EXCEPT CONSIGNOR'S C. O. D. Weights are subject to correction.

DIMENSIONS

DIMENSIONAL WEIGHT	
X	X
CU. IN. =	

RECEIVED TO APPLY IN PRE-PAYMENT OF THE CHARGES ON THE PROPERTY DESCRIBED HEREON.

BY AGENT

It is mutually agreed that the goods herein described are accepted to appear good order (except as noted) for transportation as specified herein, subject to governing classifications and tariffs in effect as of the date herein which are filed in accordance with law. Said classifications and tariffs, copies of which are available for inspection by the parties herein, are hereby incorporated into and made part of this contract.

RECEIVED BY

DELTA AIRLINES
AGENT (NAME OF AIR CARRIER)

AT	(DATE OF RECEIPT)	DATE	TIME	APPROVED

Form AC-1 (Rev. 1-54)

SUMMARY OF CHARGES		PREPAID CHARGES	COLLECT CHARGES
Weight - Rate Charges			41 27
Pick-up Charges			
Delivery Charges			1 10
Basic Value			
Transportation Charge			
Sub-Total			42 37
Transportation Tax			1 27
Charges Advanced			
Consignor's C.O.D.	XX	XX	
C. O. D. Fee			
Insurance Charge			XX XX
TOTAL CHARGES			43 64

☐ CASH ☐ CHARGE

Meritt-Summers & Buecy
1211 - 4th Ave. S. SEATTLE 5, WASH.

156

(Testimony of Stanley A. Lund.)

(Air bill marked Respondent's Exhibit A-30 for Identification.)

Q. Handing you what has been marked for identification as Respondent's Exhibit A-30, can you state what that is?

A. That was the air bill that was handed me at the time this crated exchange cooler here was brought to the office.

Q. What item is shown as being the unit transported on that?

A. One wooden box machinery, and the weight.

Q. What is the origin of shipment shown on that [1540] waybill?

Mr. Hokanson: I object to that, your Honor.

The Court: Sustained. The exhibit is not in evidence; therefore, its contents cannot be stated.

Q. Please refer to the rubber stamp endorsement at the bottom of Identification A-30. Was that on the document at the time it was received?

Mr. Hokanson: I object to that. He hasn't identified this yet. It is not in evidence.

The Court: He has not read it in evidence, and the objection is overruled. He can say whether the figure or word, without reading the figure or word, was on there at the time in question.

A. Are you referring to our stamp that has been placed on it?

Q. Yes.

A. That was placed on there subsequent to the time we received it.

(Testimony of Stanley A. Lund.)

Mr. Howard: I offer Identification A-30.

Mr. Hokanson: I object to the introduction of A-30, Your Honor, on the ground that it has not been established what the document represents, nor has it been in any way identified with any of the issues in this case.

The Court: The Court thinks it has not [1541] been properly authenticated, neither 30 nor 29, and the objection is sustained.

Q. Does Identification A-30 represent the waybill that was delivered to your office at the time this A-29, the piece of machinery, was delivered?

Mr. Hokanson: I object to the question as leading, and involving hearsay statement.

The Court: That is sustained. It is leading.

Q. When did you receive Identification A-30?

A. It was received at the time this crated piece of machinery was received in the office.

Q. Who delivered it to you?

A. I couldn't tell you who it was. It was a deliveryman, obviously, for Northwest Airlines, and I signed a copy of the receipt of the box when it was delivered.

Q. The machinery identified as A-29 was received at the same time? A. Yes, it was.

Q. Had you received any previous shipment as to the source of this shipment?

A. No, I had not.

Q. Had Mr. Antippas advised you that any such shipment was being received?

(Testimony of Stanley A. Lund.)

Mr. Hokanson: I object to that, Your Honor.

The Court: Sustained. [1542]

Q. Had Mr. Antippas made any arrangements with you to receive any freight shipments, air freight shipments?

Mr. Hokanson: I object to that as leading and not in any way identified with the exhibit in his hand.

Mr. Howard: He can answer that question yes or no.

The Court: You may do so. The objection is overruled.

The Witness: Yes, he did.

Q. What arrangements had he made with you?

A. I believe it was about a week ago last Saturday. He told me that he had——

Mr. Hokanson: The same objection, for the record. I object to the witness stating what Mr. Antippas told him as based upon hearsay, if what he proposes to state is offered for the proof of the truth of the matter asserted.

Mr. Howard: I submit to Your Honor that the statement Mr. Antippas may have made to Mr. Lund as to arrangements for receipt of any shipment, air freight or otherwise, would be admissible, not necessarily for the proof of the truth of the matter asserted, but to show the source of this Identification A-30 and the arrangements that were made for its receipt in Seattle.

(Testimony of Stanley A. Lund.)

Mr. Hokanson: That is the very thing in issue, Your Honor. [1543]

The Court: The objection is sustained.

I do not see how you are going to establish this Exhibit A-29 unless you produce a witness who knows it came off this vessel.

Mr. Howard: I submit the witness that testified last week testified that such a cooler was received from the vessel, and this witness is brought merely for the purpose of tying it in with the exhibit which was brought into the courtroom, being the same one that the witness testified about last week.

The Court: I am talking about the situation over objection. Since the Court is confronted with an objection here, for all that has been made to appear there may have been more than one shipment made off that vessel of some piece of machinery. There is no definite connection between the Harrison oil cooler, if any, taken from the Urania and the article that is now marked Respondent's Exhibit A-29 and here presented.

Q. I will ask the witness, if I may do so, did you receive any other shipments of machinery during the last week or ten days in your office in Seattle, Washington? A. No, we have not.

Q. If such shipments had been received, would you have any knowledge of them?

A. I might and I might not; I couldn't say.

Q. Were you handling the affairs for Mr. Antipapas while he was in Seattle in the last week or ten days?

(Testimony of Stanley A. Lund.)

Mr. Hokanson: I object to the question as leading.

The Court: The objection is overruled.

A. Yes, I did.

Q. Then if any shipments had been received for the account of Mr. Antippas, would you have knowledge of them? A. Oh, yes indeed.

Mr. Hokanson: I object to that, Your Honor, as calling for a conclusion of the witness.

The Court: The objection is overruled.

Q. Were any such shipments received?

A. No.

Q. This Identification A-29, then, represents the only shipment of machinery that you did receive at your Seattle office during the last week or ten days? A. Yes, it is.

Mr. Hokanson: At this point, with reference to the attempt to introduce this exhibit into evidence, I would like to call the Court's attention to an order which the Court signed on the 9th day of March, 1949, in this cause wherein on Page 3 of the order, the cross libelants are directed under paragraph 2:

"To produce each of the following objects at the offices of its proctors, Messrs. Merritt, Summers & Bucey, [1545] 840 Central Building, Seattle, Washington, on or before the 14th day of March, 1949, and to permit libelants-cross-respondents, their proc-

(Testimony of Stanley A. Lund.)

tors, technical advisers and/or photographers, to inspect and photograph each of said objects:

“(a) Any and all engine parts or other parts of the Motor Tanker “Urania” removed from said vessel after October 15, 1948, for the purposes of introducing the same into evidence as exhibits upon the trial of the above entitled cause.”

I submit that had counsel intended to introduce this exhibit in this cause, he was under obligation to allow us the opportunity to inspect this under the terms of this order, and that it is improper at this late stage of the trial to undertake identification and introduction of it.

Our witnesses have all been dismissed. This matter was gone over when Mr. Antippas was here. He had an opportunity when he was here to identify it. We were never given the opportunity to see the exhibit. We were informed that it was allegedly here—the alleged cooler was here at about ten minutes of twelve on Thursday, just prior to the resting of cross libelants case. [1546]

No offer was made to produce it at the time we undertook to introduce a cooler in lieu of it to establish the type of construction; and I submit, Your Honor, that it is rather late in the case now, particularly in view of the order signed, to undertake to introduce what is alleged to be the cooler from the Urania, which in any case must be hearsay, because there is not present, to my knowledge, anyone from the vessel to establish that is the

(Testimony of Stanley A. Lund.)

cooler which is in issue here which was on this vessel in October, 1948, and has been on the vessel at all times since.

The proof is such that I submit counsel is wasting the Court's time in undertaking to identify it now.

Mr. Howard: If the Court please, as to the order counsel has referred to, I would like to state to Your Honor that to the best of my knowledge, no such part was available from the tanker Urania at the time that the order was entered.

However, it is true that when another heat exchanger was offered in evidence and identified as an exhibit the latter part of last week, I advised counsel at that time we had the heat exchanger off the Urania in Seattle; that we considered offering it on our case in chief; that we decided against it for several reasons, including the one that was mentioned as [1547] far as the difficulty of incorporating such an exhibit into the record on appeal. Counsel for the cross respondents have not requested any opportunity to examine the cooler since that time, when I advised the Court and counsel that we had such an exhibit in Seattle.

As far as the admissibility of it is concerned, and counsel's last remarks, I can only state I believe it is entirely proper as rebuttal evidence for the reasons that I have previously mentioned to the Court, and we do submit to Your Honor that we have made a prima facie showing of the iden-

(Testimony of Stanley A. Lund.)

tity of the cooler which should be sufficient to allow the Court to receive it in evidence on the offer which we now make of A-29.

The Court: I do not think that the exhibit has been sufficiently identified to be admitted over objection.

One reason I think it is lacking in identification necessary to meet the objection is that it should have had some person who took it from the Urania, identified the identity of it with the identity of the article shipped by the carrier which is alleged to have carried it, and then the identity should have been unmistakably and properly connected up from the time it was on the vessel until it arrived here in court, when it did arrive. [1548]

I do not think, over objection, that that has been sufficiently done.

I also feel the possibility of there being some prejudice to the cross respondents in connection with it. I think if it had been produced in accordance with the Court's order in the proper time and at a time when they could make use of and gain information from it, they might have had an opportunity to have made a more timely inspection of it.

That last observation causes the Court to feel that the possible prejudice to the cross respondents makes it important for the Court to require, since the objection has been made by cross respondents, that the exhibit be properly and legally identified.

The objections of cross respondents to the identification of A-29 is and are sustained.

(Testimony of Stanley A. Lund.)

Mr. Howard: If the Court please, would you allow an exception on that ruling?

The Court: Exception allowed.

Mr. Howard: At this time, I will also offer Respondent's Exhibit A-30 for Identification in support of the offer which has heretofore been made on A-29.

Mr. Hokanson: I object to the offer.

The Court: Sustained.

Mr. Howard: An exception, if the Court [1549] please.

The Court: Allowed.

Mr. Howard: At this time, I again renew my application on behalf of cross libellant that this evidence be received in the record under Admiralty Rule 46-B, over objection that has been made and ruled upon by the Court.

The Court: Will you pass that rule up? I would like to read it.

I would like for counsel for cross respondent to read 46-B and comment upon how it is applicable. After counsel for cross respondent has read it, I would like for Mr. Howard to restate his conception of the applicability of that rule to what is here involved.

Mr. Howard: It is my impression that Rule 46-B would be applicable in this case to permit the offer and admission of Exhibit A-29 over objection for the purpose of having it in the record in the event an appeal is taken; the exhibit would be before the

(Testimony of Stanley A. Lund.)

Circuit Court of Appeals if they should rule that the exhibit was properly admissible.

The Court: I would be glad to order that the exhibit go on appeal in case an appeal is taken, if that is what you wish. I think that refers to the testimony connected with the identifying of the exhibit, and, of course, that will be in the transcript of the record in [1550] case there is a review.

Mr. Howard: I believe the rule is intended and will properly be construed as being broad enough to cover the exhibit itself, but that is the purpose of my offer.

The Court: I will be glad to cross that bridge when we come to it.

Mr. Howard: No further examination of this witness.

Mr. Hokanson: No questions.

The Court: You may step down.

(Witness excused.)

Mr. Howard: That concludes the rebuttal of the cross libelant.

The Court: As I understand it, libelant rests, is that right?

Mr. Hokanson: Yes, Your Honor.

The Court: And also the cross respondents rest, is that true?

Mr. Hokanson: That is correct, Your Honor.

The Court: Is there any further testimony to be taken in this case?

Mr. Howard: None on behalf of cross libellant.

Mr. Hokanson: Not on behalf of libelants.

The Court: The court is recessed for five minutes. [1551]

(Recess.)

(Argument presented to the Court by respective counsel for libelants and respondent.)

The Court: All of the original contract items, as I understand it, are undisputed so far as the work done and the charges made therefor are concerned, with the exception of certain substituted work.

The respondent frankly observed in the course of argument on the merits that the extent of Mr. Williams' authority to represent the owner of the vessel is perhaps the one outstanding question for determination by the Court, at least so far as the right of the libelants to recover on account of the matters and things alleged in the libel may be concerned. The Court has heard and carefully considered all of the testimony upon that issue, as well as all the other issues in the case.

I know of no fact in the case more firmly established than that Mr. Williams was held out by the owner as having authority to represent the owner in all things concerning the work and the ordering of extra repairs not [1552] covered by the original contract. So far as concerns the owner advising the libelants that there was any limitation of any character upon the authority of Mr. Williams to repre-

sent the owner, there is no credible evidence in this case to support that.

The owner, through the testimony of Mr. Antippas, put forward a contention in effect that the libelants should have been aware of the fact that in some special matters, Mr. Williams could not have been supposed to have authority from the owners to cover his handling of those matters and acting for the owner to the same extent that the owner through some corporate official could have acted, but there is nothing in the evidence to warrant any such contention on the part of the owner.

Mr. Williams was sent here to represent the owner, and he did represent the owner in everything that concerned the doing of this work and the acts that were reasonably connected with it. No acts done by Mr. Williams for the owner were ever repudiated until after this libel was filed. The Court, therefore, finds, concludes and decides from a preponderance of the evidence that the authority of Mr. Williams to represent and bind the owner was without limitation so far as the matters and things alleged in the libel are concerned.

In every instance of Mr. Williams' approval of work [1553] done and in every instance of acts done by Mr. Williams in connection with the repairs and work on the "Urania," Mr. Williams' authority to bind the owner was ample and sufficient, and Mr. Williams' acts, both as to original contract items and extra items, did bind the owner of the "Urania."

He had every appearance of having unlimited authority to represent the owner in approving the work and authorizing extras in every instance when he purported to act for the owner. If there was in fact in the owner's mind any thought of limitation of such authority, it was incumbent upon the owner to so advise the libelants in some certain way. No such limitation was ever communicated to the libelants.

The Court, from a preponderance of the evidence, further finds, concludes and decides that all of the work which was done in pursuance of the original contract and in connection with the extras ordered by Mr. Williams was actually done as alleged in the libel, was authoritatively approved by Mr. Williams on behalf of the owner as alleged in the libel, and that the charges made by libelants therefor are in all respects reasonable, and libelants are entitled to recover of and from the respondent all of the sums as prayed for in the libel.

The substitute work was done in place of the item [1554] in the contract calling for removal of a bulkhead at a cost of \$200. Mr. Williams himself testified that although the bulkhead was not removed according to the specifications, additional substitute work was done in amount and value satisfactory to him, and, therefore, there will be no deduction from the sums asked for by libelants on account of that \$200 bulkhead removal item.

Referring now to the extra coils for the Clayton

boiler, Mr. Featherstone, one of the libelants, clearly recalled the transactions regarding that matter when he spoke of not having any of those extra coils at the Winslow yard and of having some of them in libelants' Seattle warehouse where the libelants ordinarily kept spare parts used in ship repairs, when he spoke of having the extra coils looked over carefully and of having selected one set that was regarded as suitable for the Clayton boiler on the "Urania," and of having that extra set transported from Seattle over to the Winslow yard and there put aboard the "Urania." It is not likely that Mr. Featherstone would have had that done without any authorization from Mr. Williams. Mr. Featherstone's recollection of the foregoing details concerning the extra coils is significant.

It is more likely that Mr. Williams has forgotten the detail. The Court declines to allow any deductions from the amounts to be recovered by libelants on account of [1555] the work substituted for the bulkhead removal and extra coils for the Clayton boiler.

Mr. Williams was on the job a great percentage of the time, and he worked without any evidence of friction with the superintendents and the foremen and workmen in and about the yard, and so far as the evidence discloses, there never were any irreconcilable differences between him and others working in the yard as to the amount or quality of the work called for by the original contract or the extra job orders.

The Court was convinced more by the testimony of Mr. Williams than by any other testimony, as to the fairness of these items, respecting both the quantity and prices of materials and work furnished by libelants. Particularly, his testimony in effect that the repair job as a whole was done in a good workmanlike manner caused the Court to conclude that the libelants did supply good materials and good shipyard work in connection with all the repairs made.

This the Court so concludes notwithstanding the fact that some of the shipyard foremen or subforemen failed to relate from the witness stand very clear-cut narratives or accounts of what was done, or definite personal knowledge of details of the work actually done. In at least three instances, I thought libelants' witnesses showed a surprising lack of personal recollection of the details of [1556] the work done.

Yet, I am convinced, from a consideration of all the evidence and by a preponderance thereof, that one of the reasons why some of these foremen or subforemen may not have retained in their minds in minute detail what they personally did or saw done in connection with the repairs, was that they were doing so much of the work under direction of ship officers or personnel, notably the chief engineer or persons in the engine room department, and they were doing the work in detail as ordered

rather than in accordance with written specifications or what the foremen or subforemen thought should be done. Consequently, in such instances, the final functioning of a repaired unit was not to be so much in accordance with the satisfaction of a foreman or subforeman, but was to be rather for the approval of Mr. Williams and Mr. Gallagher or as required by a department of the ship or its head particularly interested in the specific item.

Coming now to the cross libel, it appears from the allegations of the cross libel and testimony in support thereof that as a matter of fact the cross libelant, the owner of the vessel, sustained considerable expenses in California and Mexican waters and ports due to a failure of the main engine, and more specifically, due to the galling of the vertical timing gears of the main engine. As to [1557] cross libelant's right to recover on account of the matters and things set forth in the cross libel, the burden rests upon the cross libelant to prove as alleged that such engine failures were caused by faulty repairs made by libelant.

So far as the main engine and its auxiliary equipment are concerned, all parts operated efficiently from the time of the beginning of the sea trial at Seattle until the vessel arrived off Manzanillo, Mexico, more than eleven days later. The sea trial was had before the vessel departed from Seattle. The occurrence of the main engine's failure off

Manzanillo was about eleven days after the vessel left Seattle.

The engine functioned properly for ten days. The main engine failure first cocurred on the eleventh day out of Seattle and about a day after the lubricating oil was changed. No difficulty in the functioning of the engine or any of its auxiliary equipment had been experienced during the sea trial or at any time during those ten days out of Seattle before the lubricating oil was changed. The Court is not entirely convinced by the evidence as to just exactly what was the cause of that engine trouble or of the galling of those gears, but I am convinced of one thing, and that is, of the failure of the cross libelant to sustain the burden of showing, by a preponderance of the evidence, just what the cause was. [1558]

I am not entirely satisfied in my own mind from the evidence whether or not there actually was contamination in the lubricating oil. If it is established by the evidence that lube oil contamination of some kind or other was the cause, I am not entirely satisfied as to the nature of the contamination, whether it was sea water or whether it was some foreign matter other than sea water which had been introduced into the lubricating oil.

Furthermore, I am not satisfied from the evidence as to what was the means of introducing the foreign matter, either sea water or other kind of contamination, if there was some kind of contamination, into the lubricating oil. If there was sea water con-

tamination, I am not sure whether it all was admitted through leaks or whether it was admitted in some other way.

Cross libelant contends and it might be supposed that a leak in the partition wall between the sea water cooling agent and the lube oil admitted the sea water into the lube oil, but I do not know from the evidence certainly that the leaks, if any, were caused by any defective repair work done at Seattle. If the leaks did in fact admit the sea water, the leaks might have developed from ordinary wear and tear after the vessel left Seattle, instead of from faulty repairs at Seattle.

One witness testified that the chief engineer [1559] definitely instructed just what was to be done, what kind of work, servicing and testing were to be done with respect to the heat exchangers and lube oil cooler, and that the libelants as repairmen undertook on their own responsibility no duty to determine the extent of repairs or servicing or testing which was to be done, but did only what the chief engineer specifically directed in pursuance of the contract stipulation in that connection.

Also. I do not think that it is to be concluded from the evidence before the Court here that the galling of the gears was not caused in part by some abnormal pressures not connected with the repairs. There is considerable uncertainty about what might have caused the galling of the gears, but one of the outstanding circumstances surrounding the problem is a circumstance very strongly in

favor of the workmanlike quality of the repairs made at Seattle, namely, that the engine and its auxiliary parts functioned normally and satisfactorily, not only at the time of the sea trial, when Mr. Williams, on behalf of the owner, and also Mr. Gallagher, on behalf of the American Bureau of Shipping, approved the repair work, but also during the ten days' run from Seattle to a point off Manzanillo, during all of which time there was no evidence of improper functioning of either the main engine or its timing gears, but on the contrary, such functioning was proper. [1560]

No one can decisively conclude from the evidence in this case that such damage or galling as the timing gears sustained might not have all been caused during the day that they were operating after the first change of lubricating oil was made following the initial ten days' run from Seattle.

A substantial portion of all of the repair work done by libelants was done not to the extent and in the manner as determined by the discretion of the libelants, but according to the discretion and direction of those representing the owner of the vessel as the contract provided. In that connection, we should bear in mind the fact that the vessel had been out of use for some time before the repairs were made.

A relatively minor failure or damage occurred near Port Angeles when the telemotor system failed. But the statement on page 6 of Libelants' Exhibit 17. item 41(a) that, "All parts of the steering

engine were examined and were found in good condition," cannot be lightly laid aside, for that is what Mr. Gallagher, as a representative of the American Bureau of Shipping, found from his observation of the telemotor's functioning on the sea trial.

That finding, taken in connection with other testimony in the case, convinces the Court that the work [1561] of repair and servicing of the telemotor system was done in a good workmanlike manner and in accordance with good shipyard practice, and that the failure in that system occurring near Port Angeles was due to causes other than improper work of libelants.

Finally, it is the finding, conclusion and decision of the Court from a preponderance of the evidence in this case that the cross libelant take nothing by the cross libel. It is the further decision of the Court that libelants recover their taxable costs herein. Such recoveries as are allowed by the Court in favor of libelants shall be without interest prior to entry of judgment and decree if such entry can be soon accomplished.

Is there any issue tendered in the libel or cross libel or any answer to either of them not covered by the Court's announced decision? If so, will you advise me of it now?

Mr. Howard: I believe there is one item that was not specifically commented on with respect to the cross libel, the claim for cost of repairs to the Clayton boiler.

The Court: I do not think as to that item, any more than the others, that the cross libelant has sustained its burden of proving the repair work was defective or other than workmanlike in accordance with good shipyard practice, and for that reason the Court does as to that [1562] item specifically deny recovery to the cross libelant.

(At 6:25 o'clock p.m., Monday, April 18, 1949, proceedings closed.)

CERTIFICATE

I, Patricia Stewart, do hereby certify that I am official court reporter for the above-entitled court, and as such was in attendance upon the hearing of the foregoing mattter.

I further certify that the above transcript is a true and correct record of the matters as therein set forth.

/s/ PATRICIA STEWART,
Official Court Reporter.

[Endorsed]: No. 12322. United States Court of Appeals for the Ninth Circuit. Compania Naviera Limitada, a Corporation, Claimant of the Motor Tanker "Urania" Her Engines, Tackle, Apparel, Furniture and Equipment, Appellant vs. E. A. Black and J. J. Featherstone, Copartners doing business under the name and style of Commercial Ship Repair, Appellee. Apostles on Appeal. Appeal from

the United States District Court for the Western District of Washington, Northern Division.

Filed August 8, 1949.

/s/ PAUL P. O'BRIEN,

Clerk of the United States Court of Appeals for the Ninth Circuit.

United States Court of Appeals
For the Ninth Circuit

E. A. BLACK and J. J. FEATHERSTONE, co-
partners doing business under the assumed
name and style of Commercial Ship Repair,
Appellees,
(Libelants)

vs.

THE MOTOR TANKER "URANIA," her en-
gines, tackle, apparel, furniture and equipment,
Respondent,

COMPANIA NAVIERA LIMITADA,
a corporation,

Appellant.
(Claimant)

COMPANIA NAVIERA LIMITADA,
a corporation,

Appellant
(Cross Libelant)

vs.

E. A. BLACK and J. J. FEATHERSTONE, co-
partners doing business under the assumed
name and style of Commercial Ship Repair,
Appellees
(Cross Respondents).

PETITION TO DISPENSE WITH PRINTING
OF CERTAIN EXHIBITS

To The Honorable Judges Of The Above Entitled
Court:

Appellant herein, Compania Naviera Limitada, respectfully petitions for an order herein, providing that those certain original exhibits, or portions thereof, constituting a part of the Apostles on Appeal, filed herein, which are set forth on schedule attached hereto and made a part hereof, shall be considered by this court upon the appeal herein without their being printed, and that the printing thereof in said printed Apostles may be dispensed with; for the reasons set forth in affidavit of Charles B. Howard, one of the proctors for appellant, hereto attached and made a part hereof; and all in accordance with Stipulation of proctors for appellant and appellees, dated June 6, 1949, and included in said Apostles; and that said stipulation be approved by this court.

Respectfully submitted,

MERRITT, SUMMERS &
BUCEY,

/s/ CHARLES B. HOWARD,

Proctors for said Appellant.

SCHEDULE OF EXHIBITS
NOT TO BE PRINTED

Libelants' Exhibits

No. 10: Record of stores issued from stock to "Urania."

Reason for Not Printing: Too voluminous.

No. 11: Invoices on outside purchases for "Urania."

Reason for Not Printing: Too voluminous.

No. 13: Specifications of Sparkman & Stevens for conversion of tanker.

Reason for Not Printing: Too voluminous.

Claimant's Exhibits

No. 4: Specifications of Sparkman & Stevens for conversion of tanker.

Reason for Not Printing: Too voluminous.

No. 8: Pilothouse log book "Urania."

Reason for Not Printing: Not readily printable.

No. 9: Invoices and statements at Manzanillo.

Reason for Not Printing: Too voluminous.

No. 10: Statements of Manzanillo agent.

Reason for Not Printing: Too voluminous.

No. 12: Engineerroom log book "Urania."

Reason for Not Printing: Not readily printable.

No. 13: Continuation engineerroom log book.

Reason for Not Printing: Not readily printable.

No. 16: Instruction book and manual of Union Diesel Engine Co.

Reason for Not Printing: Too voluminous and major portions not applicable. Pertinent portions referred to in transcript.

No. 24: Invoices and statements at Los Angeles.

Reason for Not Printing: Too voluminous:

No. 29: Lubricating oil cooler (identification only).

Reason for Not Printing: Not printable.

[Title of Court of Appeals and Cause.]

United States of America,
State of Washington,
County of King—ss.

Charles B. Howard, being first duly sworn, on oath deposes and says:

I am a member of the bar of the above entitled court and one of the proctors for appellant in this cause; and make this affidavit on behalf of appellant and in support of the foregoing petition of appellant to dispense with the printing of certain exhibits.

The exhibits shown on schedule attached to the foregoing petition include log books, manuals, numerous invoices, accounting records too voluminous to print, large portions of which have slight, if any, bearing on a determination of the issues in this cause.

The claimant's Exhibit 29, being a lubricating oil cooler which was offered but denied admission in evidence by the trial court, is a heavy piece of machinery which it is impossible to reproduce in the printed record and falls within the classification of exhibits of material within the meaning of Rule 18 of the Rules of this court.

Proctors for all parties to this appeal have by written stipulation, included in the Apostles on Appeal, agreed to the consideration of said exhibits on appeal in their original form without reproduction in the printed record; and it is respectfully submitted that it is suitable and proper that said stipulation be approved, and that the foregoing petition be granted.

/s/ CHARLES B. HOWARD.

Subscribed and sworn to before me this 3rd day of August, 1949.

[Seal] /s/ LANE SUMMERS.

Notary Public in and for the State of Washington,
residing in Seattle.

Receipt of copy acknowledged.

[Endorsed]: Filed Aug. 9, 1949.

[Title of Court of Appeals and Cause.]

ORDER GRANTING PETITION TO DIS-
PENSE WITH PRINTING OF CERTAIN
EXHIBITS

Upon reading and considering the petition and affidavit therefor, filed herein on behalf of appel-

lant, together with the stipulation of appellant and appellees dated June 6, 1949, as included in the Apostles on Appeal herein, it appearing to the Court proper;

It is now Ordered that said petition be and it hereby is granted; that said stipulation be, and it hereby is, approved; and that in accordance with said stipulation those certain items, or portions, of the original exhibits included in said Apostles as set forth in Paragraph (F) of stipulation dated June 6, 1949, and also in schedule attached to petition herein, need not be printed in said Apostles, but shall nevertheless be considered upon said appeal, in their original form.

Done this 9th day of August, 1949.

/s/ WILLIAM DENMAN,

/s/ HOMER BONE,

/s/ WM. E. ORR,

Circuit Judges.

Approved and notice of presentation waived.

TODD, HOKANSON &

WHITE,

/s/ RUSSELL V. HOKANSON,

Proctors for Appellees.

Presented by:

/s/ CHARLES B. HOWARD,

Of Proctors for Appellant.

[Endorsed]: Filed Aug. 9, 1949.

[Title of Court of Appeals and Cause.]

APPELLANT'S STATEMENT OF POINTS
AND DESIGNATION OF PARTS OF THE
RECORD

To The Honorable Judges Of The Above Entitled
Court:

Appellant herein, Compania Naviera Limitada, of Panama, hereby refers to and adopts as its Statement of Points on which it intends to rely upon this appeal, all of its Assignments of Error as heretofore filed herein.

Said appellant, as its Designation of Parts of the Record, which it deems necessary for consideration on said appeal, does hereby designate all of said Apostles on Appeal, including all of the original pleadings and exhibits, the court reporter's transcript, depositions and other documents, (including all portions of the record specified in appellant's praecipe as incorporated in the said Apostles) excepting only those documents, exhibits and pleadings omitted from the record pursuant to Stipulation as to Record and Apostles on Appeal, signed by all counsel and dated and filed June 6, 1949.

Respectfully submitted,

MERRITT, SUMMERS &
BUCEY,

/s/ CHARLES B. HOWARD,

Proctors for Appellant.

Receipt of copy acknowledged.

[Endorsed]: Filed Aug. 9, 1949.

[Title of Court of Appeals and Cause.]

DIRECTIONS TO CLERK RE PRINTING
APOSTLES ON APPEAL

To The Honorable Clerk Of The Above Entitled
Court:

In harmony with stipulation of counsel of June 6, 1949, included in the Apostles on Appeal in the above entitled cause, (and subject to the order of the above entitled court on appellant's Petition to Dispense with Printing of Certain Exhibits) please omit the portions of the record set forth in paragraph (F) of the stipulation in printing the Apostles on Appeal.

Also, in printing the exhibits, or portions thereof, which are to be printed in said Apostles, and consistent with the Rules of this Court and existing practices of your office, please have each exhibit printed or photostated, and placed in the Apostles immediately after the respective portion of the reporter's transcript showing the introduction (or offer), the proposed location of each exhibit being shown opposite the name and number thereof in the following table:

Claimant's Exhibits

No.	Description	Proposed Printing	Proposed Photostating	Reporter's Typed Transcript	
				Page	Line
1.	Specifications	All	.....	18	1
2.	Progress Invoice		All	174	5
3.	Letter 9/23/48	All, except letterhead & formal detail	.....	32	15
4.	Additional Specifications	All	.....	79	7
5.	Invoice 10/8/48	All	.....	81	6
6.	Invoice 10/8/48	All, except letterhead & formal detail	.....	82	12
7.	Work Sheet		All	107	6
8.	Survey Report, H. F. Williams	All, except letterhead & formal detail	.....	125	5
12.	Cost Schedule		All	186	10
14.	Diagram of Clayton Boiler		All	691	12
15.	Diagrams of oil cooler		All	984	4
17.	A.B.S. Survey Report	Body of report, date & signatures, omitting formal detail	.....	1496	11

No.	Description	Printing Proposed	Reporter's Typed Transcript	
			Page	Line
1.	Ltr. of E. A. Black.....	.....	52	23
2.	Receipted invoice for \$25,000 .....	.....	55	6
3.	Telegram dated 10/13/48	Addressee, message, dateline & signature	.....	12
5.	Two invoices for additional work	All, except letterhead & formal detail	423	25
6.	Clarke survey of 10/16/48.....	All	572	16
7.	Clarke survey of 10/18/48.....	All	578	3
14.	Diagrams (5) of main engine.....	All	568	23
15.	Invoice, Clayton Mfg. Co.	All	1213	18
17.	Invoices (13 pages)	All, except letterhead & formal detail	722	15
20.	Chemist's analysis oil sample	All, except letterhead & formal detail	916	17
21.	Pike survey report	All	1164	24
22.	Dupuy survey report	All except formal detail	1164	24
23.	Summers survey report	All	1164	24
25.	Towing Invoices	All, except letterhead & formal detail	1162	14
26.	Telegram 10/13/48 (identification)	Addressee, message, dateline & signature	1180	13
27.	Invoice	All except formal detail	1219	13
28.	Charter (identification)	All	1219	18
30.	Air freight bill (identification)	All	1540	16

Respectfully submitted,
MERRITT, SUMMERS &
BUCEY,
/s/ CHARLES B. HOWARD,
Proctors for Appellant.

Receipt of copy acknowledged.

[Endorsed]: Filed Aug. 9, 1949.

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